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Health Centers—How They May Be Set Up Most Effectively to Meet Total Health Needs*

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FOR most of us, the term "health center" has connotations which reflect the broad challenges and increasing interest in public health today. We now look upon the health center as something more than a physical plant or location from which basic services are routinely distributed by the official health agency to the people of a community. This is indeed a major objective, but no center can fully meet today's requirements unless it is also the home base, the focal point, for the coordination of health and related services of all agencies, for the continuing evaluation and management of public health problems of that area, and for a mature program of health education. Consequently, the physical facility itself becomes highly important not only in terms of appropriate space and design but also as a representation of total community service, support, and participation. Ideally, the health center should be as clearly identified with a community's physical health as the churches are with its spiritual health—and as well known.

We are moving toward this ideal—thanks to the steady extension of areas covered by full-time local health organization, and the emergence over the past decade of many local health units from narrow, dingy quarters and narrow programs into well designed, well organized health centers. Literally and figuratively, cornerstones are being laid which attest the importance of the local level in the total health structure of this country.

It is true that many communities—too many communities—still do not have adequate health services and facilities; but I am confident that they will, eventually. The reason for my confidence lies in the significant increase of public interest in total health, which is evident in today's discussion and in similar civic discussion groups throughout the country.

INFLUENTIAL FORCES

There are certain forces which have stimulated this public interest and at the same time have imposed an enlargement of health department responsibilities and facilities. I believe two of the strongest forces have been the dramatic advances in the health sciences over the past decade, and the way in which people have been made widely aware of new potentialities through health education and through our tremendous communications net-

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work—radio, television, films, newsprint, magazines, and other media. Other factors have been the economic changes which have brought about a higher standard of living among a concurrently increasing population, both young and old.

All about us we see evidence of national vitality in the changing social and socio-economic structure of the country; in the population's mobility and longer life span as well as in its increase; in new and expanding industries and job opportunities; in the rapid development of urban and suburban areas. These modern-day forces, along with the many advances in preventative and curative medicine, have been reshaping public health philosophy and practice. They have also added to the complexity of health-protection services and administration, as health workers can readily testify. Further than this, they impose upon the planners of new community centers the necessity not only of keeping pace with modern methods but also of anticipating those which are just unfolding.

All these social and economic challenges, the widening array of improved techniques and tools, and the American people's anticipation of broader services make the task of setting up and maintaining a modern community health program more difficult than in the older, simpler days—but certainly more gratifying when successfully accomplished.

Workers and planners in the field at least know where to begin, inasmuch as the "desirable minimum functions" have been very clearly pointed up through long experience and competent appraisal. The commonly recognized areas of service in the functioning of a community health center are those of maternal and child health, communicable disease control, generalized nursing service, environmental sanitation, health education, vital statistics, and laboratory services. We usually refer to these as the basic, or traditional tasks, but let us remember they are far broader in scope and more skilled in application than in former days. Recently established health centers have been set up to provide rather satisfactorily these familiar health services. However, to this base must now be added provisions for the control of chronic disease as a major requirement of our times.

Beyond this point, what expansion of responsibilities shall a local health department assume in the fields of accident prevention, the hygiene of housing, industrial hygiene, school services, mental health, medical rehabilitation, hospital and medical care administration, and other categories of activity? To what extent can adequate staff and the physical equipment be supplied to carry out the programs, and through what resources?

The decisions depend upon many factors, and will be made most effectively through cooperative community planning and action. Such group planning and decisions regarding programs and services are required before an architect is approached to lay out plans for construction of the center. Perhaps a look at the national situation will provide some guide lines.

National Viewpoint

We in the Public Health Service have watched with considerable gratification the sustained interest across the country in health facility construction since the early impetus provided by the Lanham Act during the years of World War II, and extended by the Hospital Survey and Construction Act since then. We still see, however, that in due course a further expansion of physical facilities will be needed and that States and communities will have to make better use of those they now have, so as to insure continuity of services and economy in providing these services. Modern programs require not only functionally designed public health centers, but also diagnostic and treatment centers, rehabilitation facilities, nursing homes, and hospitals for the chronically ill and impaired. Congress recognized this in 1954 when it amended the Hospital Survey and Construction Act to provide a greater stimulus for their construction and improvement.

The problem of chronic disease looms large at every level—national, State, and local. Its effective control will demand a wider and more sustained mobilization of

skills, resources, equipment, and cooperative action than has yet been required by any other specific health problem. This mobilization must be focussed in such a way as to provide a wide range of services, both public and private, designed to prevent, minimize, or arrest the progress of chronic disease and disability. The diagnostic and treatment functions of the physician must have public health support through official and voluntary agencies, the laboratory, hospital rehabilitation center, and all related services. Nursing care, physical therapy, nutritional advice, and medical social service must be organized and brought to the aid of all physicians and patients who need them.

The importance of the modern health center becomes clear when we consider the role it can play in the support, improvement, and demonstration of such ideas as:

(1) Home care services for the aged and chronically ill;

(2) Health maintenance clinics for older people;

(3) Restorative services to enable older people to achieve self-care and independence; and

(4) Methods of discovering disease at an early stage when chances for cure and recovery are the greatest; for example, such relatively new techniques as the blood test for diabetes and cytologic tests for cervical and uterine cancer must have much wider application.

It is not possible to stress too much the need for home care programs. Chronically ill patients, particularly the aged, tend to overload general hospitals. Persons 65 years of age and older have twice as many hospital days per admission as any other age group. Hospital stays of long duration are too expensive for families and for the community as well. Moreover, the acutely ill and injured are deprived of hospital beds. Many long-term patients can best be cared for at home. But this requires the well coordinated assistance of the health professions and other agencies of the community, to the extent needed for each individual patient.

How much of this needed service can most effectively be provided through the health center? This is the question the community must answer—and having answered, will then plan its center accordingly. The economy of providing many services on a group versus an individual basis should not be overlooked. Likewise, the desirability of having available a centralized location—which the people of the community identify as "our" health center—wherein up-to-date diagnostic equipment and techniques plus a well-rounded program of health information and education will stimulate the best use of such services.

These same considerations hold true for those tuberculosis patients and mentally ill patients whose medical management at home has become feasible because of recent advances in science.

The remarkable effectiveness of chemotherapy in tuberculosis has reduced the duration of hospitalization. Patients that formerly would have remained in sanatoria for 18 months or more are now being dismissed after three or four months to continue treatment at home. Consequently, this growing body of patients presents many medical and public health problems. The responsibility for long-term care is being transferred from the specialist in the tuberculosis sanatorium to the general practitioner. If patients are treated at home, the health department's responsibility for preventing the spread of tuberculosis in the community is increased.

Again, in mental disorders, the new tranquilizing drugs have permitted a substantial number of patients to be returned from mental hospitals to their home communities —and public health agencies must provide guidance, planning, and leadership in this field of home care. Follow-up and supervision of such persons is necessary, and calls for new considerations over and above that of maintaining mental hygiene programs and clinics.

Your program specialists in these fields are in a position to advise each community on the specific services which should be planned for in setting up its health center. Also, the

knowledgeable viewpoint and guidance of the practicing physician are definitely needed if we are to blend public and private efforts most effectively.

There are several other large areas of public health importance that are just now emerging, and they too offer opportunities for action and imagination from combined sources.

I refer, first, to the imposing problem of accidents. Accident prevention programs can effectively use a wide variety of skills and talents on the part of many kinds of people in addition to public health workers—children, teachers, doctors, housewives, engineers, nurses, and many more. The integration of all community resources is needed here, so that a united front can be established to define the problem areas and to attack them with maximum force.

I will mention only briefly the equally challenging areas of water and air pollution and of radiological hazards. Federal, State, and local health agencies and industries are currently making a cooperative attack on these problems in terms of prevention and control measures, safeguards, and research for additional knowledge.

Community Planning

All these problems, activities, and factors have an impact, to a greater or lesser degree, upon every part of the Nation and every citizen. The total picture, in fact, is rather overwhelming when we come to the question you have asked: How may health centers be set up most effectively to meet total health needs?

As I have indicated, the answers must come from the communities themselves.

The first step in any community is to determine the kinds of health programs to be provided there. This involves not only a measurement of its over-all needs and the establishment of priorities among them, but also careful consideration of total community resources, of public opinion, professional attitudes, and the degree of cooperation which may be expected. Available or obtainable funds and personnel must be matched to the objectives. Once the scope of services to be provided through the center has been agreed upon, the advice of program experts be sought regarding the kind of space, facilities, and equipment needed, and the most desirable arrangement of these from a technical point of view. Usually, such program specialists are available from the State health department staff. The local health officer is the key figure in bringing together at appropriate times the local people concerned, professional and lay, and the State specialists. Much of the success of the enterprise depends upon his skill in doing this, and his recognition of the long-range benefits inherent in fully representative teamwork.

In a very real and vital sense, the local public health officer is the one who builds the health structure of tomorrow through his leadership and through his utilization of cooperative relationships in early planning as well as in his daily work. In fact, a primary task for him and his staff is to encourage the fullest possible coordination of the work of the various official and voluntary agencies so as to avoid unnecessary duplication and overlapping both in types of activity and in geographical coverage, and to assure efficient and economical administration of both public and private funds for health. Close cooperative relationships must be maintained with the medical and other health professions, public and private education and social welfare agencies, and community organizations such as business, farm, labor, and other consumer groups. Herein lies the development of public support and organized community action to obtain needed additions and improvements in facilities and services. Here, indeed, is found a large share of the community resources we have been talking about.

From joint planning for programs, the health officer, his committee, and the architect will move just as profitably into joint planning for the physical plant to be fitted to local requirements and endorsement—and no less importantly, fitted into the over-all State perspective for health. More than ten years of Federal and State partnership in the surveying and building of hospital and medi-

cal facilities has made available a vast amount of integrated, factual reference data and a corps of experts in this field upon which the local group will draw through its State health department and any other State agency concerned.

Political subdivisions ranging from rural centers to large municipalities have presented a broad field for the setting up of performance and design standards for many types of health centers. These are adaptable to such factors as geographical area and population to be served, available sites, and supplemental programs and facilities of the State health department and other agencies which are coordinated into the community picture.

Whatever the organizational set-up, the local health officer should have quarters in which distractions due to shortcomings of the physical plant are reduced to a minimum. The provision of a well-planned building in which patient traffic flows effortlessly to properly sized and equipped examination and treatment areas is an obligation which the community owes to itself and to its health officer and his staff. Appropriate and modern diagnostic and laboratory equipment, as well as adequate administration space, are essential to effective operation.

In his planning the architect will also bear in mind the potential changing nature of the health center functions. Multi-purpose rooms which can be used for several types of services should be provided wherever possible, rather than rooms specially designed for a single purpose. Future expansion should be anticipated and reflected in both the plan and site. Consideration should be given to whether this center shall be for the exclusive use of the local health department, or whether it would be practicable to work out space and procedures for combined operations or joint use with voluntary or other agencies and groups concerned with community health.

Along these lines, it is generally recognized that the interchange of services and facilities often makes for better relationships. This is particularly true when the location of the health center permits it to work closely with the community hospital in easy interchange and referral of patients. But whether the center should be part of the hospital (that is, under the same roof) or whether it should be, rather, in close proximity but independent of the hospital, is a question deserving careful evaluation. When the hospital needs to expand—as many seem required to do in a short space of time, just as schools do—will the attached health center be crowded for space, even to the point of eventually renting space completely unsuited to its needs? This may not occur, but the possibility should be weighed. Also, if the location of the center is to be near the hospital, will it then be easily accessible to the people?

Accessibility seems to me to be of particular importance—not only in terms of efficiently providing health protection, but also in terms of inviting in other ways the public recognition and participation which identifies the health center as an integral part of the community. This can best be done perhaps through the addition of an auditorium, or an assembly room with or without kitchen facilities, which may be used for health education and demonstration programs as well as by various groups concerned with recreational, welfare, and other activities interwoven with the whole life of the community. Civic pride will increase through such usage, and many more people will become familiar with the center's services and its importance to them.

It is clear that the architect's task will not be easy, even under the most favorable circumstances, if he is to meet all the desired objectives. Nevertheless, teamwork will supply the best answers for any community —as it has for many communities and States across the Nation.

Control of Symptoms in the Chronic Psychoses with Concentrated Liquid Promazine*

By

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A LONG term study of ataraxics is now under way in the Veterans Administration Hospitals throughout the country, in which an effort is being made to (1) evaluate the advantages of ataractic medication in relation to those of earlier measures for control of psychotic symptoms, (2) establish the proper place for the ataraxics in the treatment program and determine the most satisfactory methods for use, and (3) to suggest channels for further investigation. In the studies initiated at this hospital, reserpine and certain members of the phenothiazine group were submitted to clinical trial.

Reduction of overt hyperactivity and other evidences of mental derangement is, of course, the first goal of psychiatric management. However, since any effective method involves not only control of the acute episode but also subsequent maintenance of improvement, and treatment is necessarily prolonged in most cases, the widely differing pharmacological effects of the various ataractic compounds should be taken into consideration. The rather consistent response to administration of reserpine includes fall in blood pressure, bradycardia, motor and mental retardation, and feelings of weakness and fatigue. Mildly disturbed patients may be perceptive enough to recognize the peculiar sensation produced by the action of reserpine upon the brain stem and may suffer an increase of fear and anxiety. Reserpine is contraindicated for depression unassociated with episodes of excitement, and in the presence of alimentary disturbances; gastrointestinal hemorrhages may follow reserpine treatment.

In extended use of chlorpromazine, a chlorinated derivative of phenothiazine, the major untoward reactions include parkinsonian symptoms, excessive somnolence (which particularly in the aged, may lead to hypostatic pnuemonia), obstructive jaundice and evidences of sensitization. The strongly depressive effects of reserpine and chlorpromazine on the higher centers may present an additional threat to the disordered personality. Circulatory failure has occurred after use of both substances; agranulocytosis has been reported after administration of a number of the tranquilizers now available. Untoward sequelae appear to result from individual susceptibility to the agent used and have no relation to dosage.

Promethazine,‡ a phenothiazine compound of ethylenediamine type, seemed, in our psychotherapeutic studies and those of others,[1] satisfactorily to subdue the agitation of many patients. This agent was later supplanted by promazine,§ an earlier-known member of the phenothiazine series[2] which had been developed after investigation[3] of a number of appropriately substituted nonoxidized compounds for possible use in avian malaria. The ataractic properties of promazine, an unchlorinated phenothiazine derivative which is otherwise identical to chlorpromazine in molecular structure, were unrecognized until Begany and co-workers[4] first demonstrated in animals the definite taming action exerted by the compound.

Numerous clinical investigations have substantiated the results of the pharmacological experiments and showed that the substance produces less clouding of the mental faculties, with none of the other side actions seen

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‡ Promethazine Hydrochloride is available as Phenergan®, Wyeth Laboratories.

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after long-continued use of chlorpromazine. The ataractic action of promazine relieved the agitation and anxiety of the disturbed patient without retarding psychomotor activity, altering his reasoning ability if present, or interfering with any normal components of the behavior pattern that had been preserved intact.

Promazine was administered by mouth in tablet form to patients in our wards for approximately two years. However, the quieting effect of the medication, especially during episodes of acute excitation in chronic cases, appeared less satisfactory than had been expected. Extremely large doses were required in some instances. We then discovered that many patients, with the cunning characteristic of the psychotic state, had retained the tablets in their mouths without swallowing, and later secretly expelled the medication (as they had done previously with other drugs).

With the hope of eliminating the uncertainties of administration and adsorption sometimes associated with use of tablet medication, promazine was made available to us in a concentrated liquid, which was tried at first in varying strengths. The most satisfactory concentration proved to be that of which 1 cc. was equivalent to 100 mg. of the dried substance. Doses were administered by the attendants in fruit juices or other pleasant-tasting beverages; thus the patients could not avoid swallowing the medication.

Material and Method

The complete series totaled 157 institutionalized patients, representing all categories of mental disease, and also including a group of epileptics, alcoholics and severe psychoneurotics, who received the compound as an adjunct to other therapy. Of the entire series, 99 cases will be described in some detail here.

All of this group were females. Adolescents (15 to 18 years old) comprised 1 per cent, 56 per cent were 20 to 39 years old, 40 per cent were 40 to 69, and 3 per cent were 70 to 85 years of age. The great majority were suffering from paranoid, hebephrenic and other types of schizophrenia. Many showed manic-depressive symptoms, 6 had senile psychosis, and 2, the chronic brain syndrome. One was mentally deficient, and 2 suffered psychotic disturbances in association with multiple sclerosis. One had an alcoholic psychosis, and 2 exhibited the postlobotomy syndrome. The length of hospitalization for the patients in this series ranged from six months to fifteen years, with an average of three years. The symptoms are summarized in table 1.

Complicating intercurrent conditions in the patients treated included 1 case each of tuberculosis, hypertension, arteriosclerosis, compression of the dorsal spine (a contraindication to electroshock therapy) and extreme malnutrition. Seven patients were subject to epileptiform convulsions (in 5 controlled to some degree with anticonvulsants and sedatives). Six had attempted or threatened suicide, and 1 (the alcoholic) had tried to kill others.

Various measures, including medication with promazine in tablet form, had been used previously for 79 (80 per cent of the group) for control of behavior disturbances. Of these 79, symptoms were unaffected in 68 per cent, and only slightly lessened in 32 per cent (table 2).

For all 99 patients the liquid concentrate was used in a potency of 100 mg. per cubic centimenter. *Dosage* ranged from 100 to 900 mg. daily, and medication was continued for one week to six months (table 3). Eighty-nine per cent received a total daily dose of 200 to 600 mg. For 32 per cent medication was continued for six months. The patient who received 900 mg. daily (a chronic schizophrenic) showed only slight, transitory benefit and was removed to another ward after four weeks. The other patient who received high dosage (an epileptic treated with 800 mg. daily for four months) had not responded to reserpine previously, but showed moderate improvement under liquid promazine medication and anticonvulsants. Her irritability lessened, and her hallucinations became less frequent and troublesome.

Dosage was doubled for 15 patients after

TABLE 1

PSYCHOTIC SYMPTOMS EXHIBITED BY 99 FEMALE PATIENTS AND RESPONSE TO TREATMENT WITH PROMAZINE LIQUID CONCENTRATE

Symptoms	Total No. of Patients Showing Symptom	Symptoms		% Improved in some degree	% No Improvement
		Eliminated no. patients	Reduced no. patients		
Belligerence and combativeness	33	12	21	100	0
Confusion	26	6	20	100	0
Delusions	18	8	10	100	0
Insomnia	5	5	0	100	0
Muteness	3	2	1	100	0
Untidiness or denudativeness	17	14	3	100	0
Petty thievery	3	1	2	100	0
Apastia	8	8	0	100	0
Overactivity, restlessness and destructiveness	32	11	11	67	33
Resistance and negativism	19	8	10	95	5
Noisiness and overtalkativeness	21	8	10	90	10
Irritability, abusiveness and unpredictability	15	5	9	93	7
Incessant demands	4	2	2	50	50
Hallucinations	9	5	4	55	45
Suspiciousness, fear, ideas of persecution and religious fanaticism	22	6	12	82	18
Depression and crying	14	4	7	80	20
Withdrawal, seclusiveness, disinterest	24	3	10	56	44
Lack of initiative	5	1	1	40	60
Tendency to escape	7	0	0	0	100

a few days or weeks of treatment, and reduced for 4 (in 2 because of improvement; in 2, because of drowsiness).

RESULTS

Table 1 summarizes the symptomatic response to the liquid medication. Thirty-five per cent now work well on the wards or are more willing to help than formerly. Thirty-six per cent are more cooperative than heretofore and socialize to some extent, whereas they previously had shown no friendly reactions to others. Six per cent have experienced some favorable effects but have re-

TABLE 2

RESULTS OBTAINED IN THE 79 PATIENTS WHO HAD BEEN TREATED PREVIOUSLY

Treatment Formerly Used	Improvement	
	Slight	None
	No. of Patients	
Promazine tablets only	9	0
Electroshock therapy only	0	19
Electroshock-reserpine-chlorpromazine	0	1
Reserpine only	7	20
Chlorpromazine only	3	5
Reserpine-chlorpromazine	6	9
	—	—
	25	54
	32%	68%

TABLE 3

TOTAL DAILY DOSE AND DURATION OF TREATMENT IN 99 PATIENTS WITH PROMAZINE LIQUID CONCENTRATE

Mg. per Day	No. Patients		Duration of Treatment	No. Patients
100	6		1 to 3 weeks	16
150	2		4 to 7 weeks	20
200	28	89%	2 months	13
300	25		3 months	7
400	6		4 months	9
600	30		5 months	2
800	1		6 months	32
900	1			
	—			—
Total	99			99

ceived the treatment for too short a time for accurate evaluation.

Ten of the 20 patients who previously had received electroconvulsive treatment still require an occasional electroshock for maintenance. Medication with promazine is administered concurrently with electroconvulsive therapy. On the morning a shock treatment is to be given the first dose of promazine is omitted, because of the apparent synergistic action of the two modalities.

Of the 10 patients who experienced no alteration of symptoms, most were schizophrenics of catatonic or paranoid type who had been resistant to all previous treatment. This group included the tuberculous patient, 1 with chronic brain syndrome, 1 with postlobotomy symptoms, and 1 suffering from multiple sclerosis. Treatment was discontinued after a few days or weeks for 5; the rest received the medication for four to six months.

Total series. Of the over-all series of 157, 40 per cent (63 patients) experienced pronounced benefit; i.e., improvement in conduct on the unit, including ability to socialize, participate in group activities, and assume some responsibility for their own welfare. Forty-four of this group improved so remarkably that 3 were discharged, 10 were permitted to go home for visits, and 31 were transferred to other units for further rehabilitative treatment.

Thirty-four per cent were moderately improved; i.e., they were quieter, less agitated and better able to conform to routine procedures without conflict with others. In 26 per cent of the total series symptoms were unchanged.

Complications and side effects. One patient with schizophrenia of residual type apparently was peculiarly susceptible to the compound. She experienced more intense visual hallucinations and required bed restraint during medication. No other unusual reactions were observed. No patient experienced hypotension, cutaneous disturbances or other ill effects of any sort, and there was no excessive sedation or dulling of the intellect.

Discussion

Oral medication with promazine liquid concentrate suppressed agitation in the chronically disturbed patients as well as in those whose illness was of shorter duration. Improvement in behavior could be maintained as satisfactorily with the liquid as with the tablet form, and was often superior to the control obtained with other tranquilizing agents. Fewer electroshock treatments were required during the period of medication. In the occasional patient for whom such measures were necessary, a lower dose sufficed than that formerly used. However, a satisfactory adjustment was maintained with the medication alone in the majority of cases.

The more favorable response elicited by the liquid medication may be attributed to (1) actual ingestion of every dose by the patient, and (2) the earlier effective blood levels produced as a result of the more rapid absorption of the liquid.

Summary

Oral treatment of the psychotic with medication in tablet form may fail because of the propensity of the patient to conceal the dose in the mouth and later to expel it secretly. A total series of 157 institutionalized patients representing all categories of chronic mental disease were treated with promazine supplied as a liquid concentrate, in varying potencies.

One group of 99 females, suffering from various types of schizophrenia and other psychoses, received the liquid in a concentration of 100 mg. per cubic centimenter. Eighty per cent had been treated previously with electroshock and certain tranquilizing agents, in all cases with little or no alteration of the behavior pattern.

Promazine liquid concentrate was administered in fruit juices or other beverages, and was continued in 32 per cent for six months. When concurrent electroconvulsive therapy was occasionally required, medication was maintained throughout the course, but on the day of each shock treatment the morning dose of promazine was omitted.

Of the over-all series of 157 patients, 74

per cent experienced a moderate to pronounced degree of benefit, and 26 per cent showed no change. Consistent improvement occurred in the patients whose most prominent symptoms included belligerence and combativeness, confusion, delusions, insomnia, muteness, untidiness or denudativeness, petty thievery and apastia.

Promazine liquid concentrate may be preferable for treatment of such cases because (1) the patient actually ingests every dose, and (2) earlier blood levels are produced as a result of more rapid absorption of the fluid compound.

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Cancer of the Stomach in Honduras

By

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THE general impression that cancer of the stomach does not occur in tropical climates is erroneous.[1] This concept results from several factors which are, limiting ourselves to Honduras: (1) an absence of adequate vital statistics; (2) a lack of complete pathological study on all gastric tumors biopsied and/or gastric tissue removed surgically; (3) inadequate or no follow-up studies in suspected cases until a definite diagnosis has been made; (4) failure of the patient to seek adequate medical care until therapy is too late and the diagnosis can only then be a suspicion and not a certainty; (5) a "natural" fear of surgery and, in particular, "mutilative" surgery such as total gastrectomy; (6) operative intervention performed elsewhere so that any local cases would fall into incidence statistics abroad.

INCIDENCE

The actual incidence of gastric cancer among the local native population is unknown. Many persons suffer from gastritis (either chronic or atrophic); a few have gastric ulcers. That such patients are cancer prone is unquestionable. Just how many of these lesions become malignant, and when, remains an unanswered question under existing conditions. The problem will be answered when all the local hospitals perform autopsies on all patients who die in the hospital. Since the actual autopsy rate is less than 5 per cent, this method of study is closed for the present. Any incidence reports, then, from Honduras can only be approximate and must be subject to day-to-day change as we obtain more knowledge. The reports are now based on (1) radiologic evidence of cancer of the stomach and (2) operative findings in those cases subjected to surgery. The present report is from a single private hospital in Honduras.

From 1952 to 1954, 213 persons had one or more gastric and/or duodenal radiographic studies† for suspected lesions of the upper gastrointestinal tract. This number does not include those patients who were subjected only to fluoroscopy (150 cases) without photography or those patients who refused either procedure (62 cases).

Of the 213 patients subjected to plate radiologic examination *18* (8.4 per cent) revealed conclusive evidence of neoplastic changes in the stomach. There were no lesions involving the esophagus or duodenum. Twelve patients were men and six were women.

The age distribution of the 18 patients was analyzed, irrespective of sex. Six patients were 40 to 49 years of age; 7 patients were 50 to 59 years of age; 2 patients were 60 to 69 years of age; and 3 patients were 70 years of age or over. That is, 72.2 per cent of the cases of gastric cancer occurred in patients between the 40th and 60th years of life. This age distribution is much higher for the same age groups than is usually reported in the literature.[2, 3, 4] The average age of onset is reported as between 55-60 with 85 per cent of all cases of cancer of the stomach being seen by a physician within these decades. Breaking down our own figures, we find that 33.3 per cent of the cases occurred within the 4th decade; 33.8 per cent within the 5th decade; and only 1.1 per cent within the 6th decade. This breakdown shows that cancer of the stomach occurs more frequently in the younger age groups in Honduras than in similar age groups elsewhere. This series is entirely too small on which to base any significant conclusions as to age and sex incidence.

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Economic status, occupation, race, local geographic variations and similar theoretical factors of the incidence of stomach cancer among any given population were not studied in the cases here reported. The series was too small to obtain any valid data on these factors and their relation to gastric cancer.

Symptomatology and Clinical Findings

That the native patient presents a complex clinical picture, although his disease may be simple, has been emphasized in previous papers.[5, 6] He is plagued with intestinal parasites; his diet is deficient in certain aspects and overabundant in others; his bodily defenses are altered from the generally considered normal, as are his biologic, physiologic, metabolic and chemical reactions. His mode of life, his habits, his customs and his laws are different from those seen in comparable socio-economic levels in the temperate zones. These aspects of the influence of local conditions on neoplastic disease have been discussed in detail elsewhere.[7] A study of these cases with radiologically proved gastric cancer reveals certain clinical and evolutional variations which serve as a basis of comparison with those from other countries. This study is the first report of a group of patients with gastric cancer from Honduras.

The records of the 18 patients subjected to surgery were reviewed and the patients themselves were carefully questioned postoperatively to determine the actual sequence of events in the history of the disease. As far as possible leading questions were avoided. All interrogation was done by the same questioner; On the basis of these replies, the symptoms were tabulated (Table 1). From all the patients the one identical answer to the single question: "Why did you consult your doctor at the time you did?", was "No relief from home remedies."

On the basis of total numbers alone "Pain" would seem to be the outstanding symptom. Close analysis of this symptom showed that it was the initial complaint in only 2 cases. Two symptoms were not observed as primary: vomiting and a mass. Further analysis of Table 1 need not be made at this time since the table is self explanatory.

As a rule cancer of the stomach is clinically silent for a great length of time and unless the diagnosis is made early in the

TABLE 1

Study of 18 Cases

Symptoms	Order of Sequence				
Objective	Initial	2nd	3rd	4th	5th
Anorexia, Loss Appetite	7	0	0	0	0
Gastric Fullness, Discomfort After Eating	4	2	0	0	0
Weakness, Loss Strength Debility	3	6	2	0	0
Pain	2	1	7	8	7
Belching, Eructations Flatulence	1	4	1	0	0
Meiena Hematemesis	1	0	0	0	0
Vomiting	0	2	4	4	7
Mass	0	3	2	6	4
Total	18	18	18	18	18

TABLE 2

LABORATORY FINDINGS IN 3 CASES OF TOTAL GASTRECTOMY FOR CANCER OF THE STOMACH

	Cases		
	1	2	3
Pre-operative RBC* (in millions)	1.99a	2.575	1.925
Post-operative RBC (in millions)	3.25	3.85	3.2
Pre-operative Hg.	45%	55%	25%
Post-operative Hg.	65%	75%	60%
Pre-operative			
Total Protein	3.5 gm %	4.6 gm %	3.1 gm %
Albumin	1.8	2.3	1.9
Globulin	1.7	2.3	1.2
Post-operative			
Total Protein	5.5 gm %	6.2 gm %	4.0 gm %
Albumin	3.6	3.8	2.0
Globulin	1.9	2.4	2.0
Gastric Analysis			
Free Acid	30.5	33.5	27.6
Combined Acid	50.5	55.0	50.1
Volume	75 cc	80 cc	60 cc
Evacuation	2½ hrs	45 mi.	12 hr
Microscopic	Mucus	0	Mucus
	Cells	Cells?	RBC, WBC
	Cryst.	Cryst.	Cryst.
	0	0	Und. Food

* These are mean values from several readings.

disease, the operative recovery rate and patient survival rate will not increase much above its present level. It is well recognized that by the time actual definitive symptoms of cancer are evident metastases are present in about 50 per cent of the patients. The first and foremost symptom here is anorexia, primarily for meat and/or meat products and later for other foods. Other non-local reports claim that stomach cancer declares itself initially with belching which becomes progressively worse and intractable as the disease advances. This latter observation was not confirmed in our study. The general symptoms of gastric cancer here, as elsewhere, can be divided into three categories: the vague, the mild, and the definite. When the symptoms become definite, the cancer is too far along for any operative procedure to give more than transient relief.[8]

On the basis of the observations made in this small group of patients, we now consider any patient 40 years of age or over who complains of anorexia, vague abdominal distress, gastric fullness, change of eating habits, or nausea, alone or combined, to have cancer of the stomach until exhaustive studies have proved otherwise. This is in accord with the more recent teachings of Thorek.[9]

This apparent vague or mild symptomatology may be a trap to the unwary and allows many patients to reach an advanced stage of the disease. The local patient differs from those seen elsewhere in his degree of tolerance to the disabling effects of the disease. In spite of a profound anemia (Table 2), he appears well nourished; he shows little evidence of wasting; his bodily reactions are almost normal; and his overall resistance to mutilative surgery and its sequelae is marked. The operative findings are usually at complete variance with the X-ray picture and the degree of symptoms. In only three patients was the cancerous growth found to be limited entirely to the antrum.

TABLE 3

SUMMARY OF 15 CASES OF GASTRIC CARCINOMA WITH NON-RADICAL OR PALLIATIVE SURGERY

Case Age Sex	Presenting Symptoms in order of their Appearance	Duration of the Symptoms before Diagnosis	Radiologic Findings Extent of Tissue Involvement	Operative Findings Extent of Tissue Involvement	Operative Intervention and Date	Pathological Diagnosis	Results	Comment
1-58-M	Weakness Pain Epigastrium Vomiting	6 months	Entire lower ⅓ of stomach Greater and lesser curvatures	Entire lower ⅓ of stomach; celiac and aortic nodes; pancreas and liver	None—1952	Adenocarcinoma	Died in 3 months PO	
2-48-F	Epigastric Pain Vomiting Weakness	3 months	Antrum alone	Entire antrum; posterior wall transverse colon and pancreas	1952 Tubovalvular gastrostomy	None	Lived 12 months PO	This patient should have had a total gastrectomy en bloc
3-51-M	Anorexia eructations Epigastric pain, mass vomiting	6 months	Entire lower ⅓ of stomach: pyloric construction	Entire lower ⅓ of stomach; pylorus; peritoneum and node	None—1953	None	Died in 1 month PO	
4-50-M	Gastric fullness, Hyperacidity Pain	7 months	Entire lower ⅓ stomach	Greater and lesser curvatures, antrum Duodenum	1953 Tubovalvular gastrostomy	Scirrhous carcinoma	Lost to follow up	Presumably dead
5-52-M	Epigastric pain Bitter vomiting Mass	24 months	Antrum alone	Entire antrum almost to cardia. Celiac & splenic nodes etc.	1953 Tubovalvular gastrostomy	Adenocarcinoma	Died 72 hrs PO	Immediate PO death from hemorrhage
6-70-M	Anorexia Debility Mass	6 months	Antrum alone	Antrum alone	1953 Anterior gastroenterostomy	Adenocarcinoma	Living and well to date	This patient should have had a total gastectomy
7-42-M	Anorexia, debility Burning Esophagus Epigastric pain	12 months	Lower ⅓ stomach	Entire lower ⅓ stomach Attached posteriorly aorta and vessels	1953 None	None	Lost to follow up	Presumably dead
8-52-F	Melena Hematemasis	14 months	Antrum alone	Entire lower ⅓ stomach duodenum. Transverse colon	1954 Tubovalvular gastrostomy	None	Died 3 months PO	
9-60-M	Gastric fullness Belching Epigastric pain	12 months	Superior ⅓ Stomach	Cardia, fundus and entire lesser curvature	1954 Anterior gastroenterostomy	None	Died 7 day PO	Death occurred from complete bowel obstruction. Surgery refused
10-40-M	Gastric fullness, loss weight, Epigastric pain, vomiting	2 months	Antrum alone	Antrum alone	1954 Tubovalvular gastrostomy	Adenocarcinoma	Lost to follow up	This patient was an ideal subject for total gastrectomy
11-63-M	Acid belching Gastric fullness Pain	12 months	Pylorus and Antrum	Dilated stomach, entire antrum, pylorus, duodenum and nodes	None—1954	None	Died 2 months FO	
12-54-F	Anorexia Debility Vomiting	4 months	Antrum alone	Antrum alone	1954 Anterior gastroenterostomy	None	Lost to follow up	This subject should have had a total gastrectomy
13-48-M	Gastric fullness Pain	3 months	Lesser curvature Antrum	Entire lower ⅓ stomach, antrum and pylorus, Liver.	None—1954	None	Died 2 months FO	
14-45-M	Anorexia Weakness Epigastric pain	8 months	Antrum alone	Massive peritoneal involvement, entire stomach, regional node	None—1954	None	Died 4 months PO	
15-55-M	Anorexia, gastric Fullness Weakness, pain	10 months	Antrum alone	Antrum alone	1954 Tubovalvular gastrostomy	None	Lost to follow up	This subject should have had a total gastrectomy

Operability

Operability rates and survival rates, then, are directly proportional to the time when the diagnosis of cancer of the stomach is made. Treatment, and radical treatment, is necessary as soon as the diagnosis has been made if the cure rate is to be increased over the now existing level. The earlier the diagnosis, the more immediate and radical the operation, the more survivals there will be among patients with cancer of the stomach.

In this series of 18 patients the first indication of any gastrointestinal disturbance occurred within the first five months before surgery in 4 cases; from 6 to 11 months before surgery in 7 cases; from 12 to 23 months before surgery, 6 cases; and for more than 24 months, 1 case. These figures indicate that in 11 patients (61.1 per cent) the symptoms were present less than one year before the diagnosis of cancer of the stomach was made and that in 7 patients (38.9 per cent) the symptoms were present for 12 months before surgery. Five have died since operation (45.4 per cent); 2 patients (18.1) per cent are still living and well since surgery; and 4 patients (35.5 per cent) have not been seen since one year after the operation. There were no immediate post-operative deaths in this group. Of the 7 patients who had symptoms for 12 months or more, 6 (85.7 per cent) died within one year of the operation and only 1 patient (14.3) per cent remains living and well. Of these 6 deaths two were in the immediate post-operative period, 72 hours and 7 days respectively.

These figures further emphasize the importance of both early diagnosis and early operative intervention.

Management

Complete surgical removal of malignant lesions of the stomach remains the best method of treatment.

Exploratory laparotomy should be performed in every patient suspected of cancer of the stomach through a small adequately placed upper abdominal incision that can be extended in any direction, even thoracically, if necessary. If on exploration the lesion is found to be obviously inoperable because of major vessel involvement, vast pulmonary, hepatic etc., invasion, a simple tubo-valvular gastrostomy is the operation of choice. The current literature indicates more and more the tendency to more radical approach to this problem.[10-20]

Results

Surgery was performed on 18 patients for cancer of the stomach during the two year period of this study. Three patients (16.6 per cent) were subjected to radical total gastrectomy; 6 cases were subjected to palliative partial gastrectomy; and 6 patients (33.4 per cent) were opened and closed without any other operative intervention.

All of the patients subjected to total gastrectomy were women, 73 years of age, 79 years of age, and 43 years of age. These 3 cases were the first successful total gastrectomies to be performed in Honduras. These 3 patients lived 23 months and 11 days after surgery, 23 months and 21 days after surgery; and 25 months and 27 days after surgery. Death in the first instance was due to a massive cerebral hemorrhage in no way connected with the cancer of the stomach; death in Case 2 was due to secondary involvement of the bowel with intestinal obstruction, for which additional surgery was refused; and death in Case 3 was due to general inanition and liver insufficiency due to massive liver metastasis. The comfort obtained in these 3 patients, the return to normal activity in all respects, the return of the feelings of well being and above all the remarkable psychological response of the three patients was proof of success although none of the patients survived the critical 5 years period. Earlier intervention in Cases 1 and 3 and a secondary operation in Case 2 would have undoubtedly prolonged the survival period of these patients.

Table 3 summarizes the clinical findings, radiologic findings, operative findings, operative procedure and results in the 15 cases subjected to non radical and/or palliative surgery.

Twelve patients were men and 3 were

TABLE 4

	Our Series	Iason
Pylorus Alone	5 (27.7%)	60%
Lesser Curvature Alone	0	rare
Cardia Alone	0	10–15%
Posterior Wall Alone	0	rare
Entire Stomach	0	rare
Anterior Wall Alone	0	rare
Greater Curvature Alone	0	rare
Antrum Alone	3 (16.6%)	?
¾ Stomach Greater Curvature Lesser Curvature Antrum-Pylorus Anterior Wall Posterior Wall	1 (5.5%)	?
Lower ½ Stomach Greater Curvature Lesser Curvature Antrum-Pylorus	3 (15.0%)	?
Superior ½ Stomach Greater Curvature Lesser Curvature Cardia	1 (5.5%)	10–15%
Curvature Alone	1 (5.5%)	rare
Lower ½ Stomach Greater Curvature Lesser Curvature Antrum	4 (22.2%)	?

women. The ages varied from 40 to 70 years of age with a mean age of 51.5 years.

Six patients had a tubovalvular gastrostomy, according to the standard technique. Two of the patients were lost to follow-up 6 months after surgery. Two patients are living and well since surgery and two patients have died. Of the deaths, one was within the immediate postoperative period (Massive hemorrhage and disruption of the duodenal stump 72 hours postoperatively). Our survival rate in this group is 33.3 per cent; our mortality is also 33.3 per cent.

Three patients were subjected to simple anterior gastroenterostomy, without enteroenterostomy. One patient survived one year after surgery; one patient died 7 days after surgery from acute intestinal obstruction and one was lost to follow up.

Of the 6 patients on whom nothing was done but exploration, death occurred in from 2 to 4 months after the exploratory laparotomy. In this group the mortality rate was 100 per cent.

DISCUSSION

Although the present series is too small for valid comparison with the results obtained elsewhere, it serves as a preliminary basis for further study. The cases showed some distinct variations of prime importance when considering the treatment of gastric cancer in the tropics, and in particular in Honduras: (1) radiologic evidence of inoperability cannot be the ultimate word in the decision for or against surgery since many apparently inoperable lesions proved to be resectable on exploratory laparotomy; (2) the patient may be a poor surgical risk by the usual standards yet he can and does withstand radical surgery as well as or perhaps better than a comparable patient elsewhere; (3) there is no relation between the extent of the cancerous change in the stomach and the severity of the symptoms present; (4) nutritional and/or other disturbances were not prominent features to cause undue alarm.

The importance of early diagnosis cannot be over emphasized. In 15 of these patients the symptoms were vague to mild and did not indicate the true nature of the serious underlying pathology. Indigestion and/or anorexia for meat, at the onset, in persons past middle life is a most significant symptom here, as elsewhere, but since in Honduras this complaint may be associated with amebiasis, intestinal parasitism, vitamin and protein deficiencies, etc., extreme caution must be exercised in reaching the true diagnosis. Both or several conditions may be present simultaneously to produce the important symptoms—indigestion or anorexia. Either alone or associated with dyspepsia, flatulence, and a change in diet habits in a person past middle age, *Anorexia means* CAUTION and careful study until cancer is ruled out. It is a good rule to state that a patient who presents such findings for more than several weeks without relief, while under adequately controlled medical treatment, must be considered to have cancer of the stomach until repeated examinations at

definite intervals prove otherwise. Most of the patients show some form of anemia, reduced hemoglobin and some alteration of the albumin-globulin ratio in the blood serum. Reduced gastric acidity is common but total achlorhydria is infrequent. The laboratory findings are found in Table 2. They are consistent with those reported elsewhere. Complete pathological differentiation of the various tumors cannot be made and evaluation of the reports available are not conclusive since the number of specimens examined is entirely too small. Of the 18 patients subjected to surgery, only 8 had pathological examinations of the tissue. These cases were reported as adenocarcinoma (6 cases) and scirrhous carcinoma (2 cases).

The site of the lesion was difficult to determine since in 7 patients several areas were involved in the pathologic process. In 11 cases definite localization to the antrum and vicinity was possible. These areas are based on X-ray identification and are at some variance with the actual findings on exploratory laparotomy. Examination of Table 3 gives a more expressive picture of the problem. The apparent site of predilection for cancer of the stomach in Honduras is different than that encountered in other countries. Iason[4] says that "60 per cent occur in the pylorus; 10 to 15 per cent in the cardia; the whole stomach, 5 per cent; the anterior wall, greater curvatures, the antrum, and the pylorus, in 22.2 per cent of cases. The discrepancy between our figures and those reported in the literature is statistically valid.

Experience now shows that these 18 patients should have been subjected to total gastrectomy with en bloc resection of tissues as advocated by Brunschwig[21] and others. The result in the 3 cases subjected to total gastrectomy indicate that it is feasible and of definite therapeutic value.

The importance of careful, detailed and serial examinations in all patients over 40 years of age who complain of anorexia, indigestion etc., is stressed.

A report of the first three total gastrectomies to be performed in Honduras is made. These results show that the native Honduran can withstand radical gastric surgery. The study further shows that the more radical operation is indicated in most instances if the present recovery rate is to be raised.

Too much dependence on X-ray interpretation of the lesion will cause many operable cases to be overlooked and decrease the operability rate and recovery rate. Operability should only be determined at the operating table. In cancer of the stomach only that type of operative intervention which will give relief and hope to the patient should be performed.

Of the 18 patients subjected to surgery, five were living and well one to five years after surgery; six patients died within 2 to 4 months after surgery but had complete relief of their symptoms and body comfort during the time of survival; five patients were lost to follow up; and two patients died within the immediate postoperative period. In only two instances in this series did the patients die from a recurrence of the cancer.

The immediate operative mortality (2 cases) for the entire series was 11.1 per cent; the overall mortality of those patients surviving surgery (6 cases) was 33.3 per cent; and the 1-5 year survival rate was 27.7 per cent.

This last figure closely approximates that given by Walters and Berkson of the Mayo Clinic.[22]

Summary

Cancer of the stomach does occur in tropical countries. In Honduras cancer of the stomach occured in 8.4 per cent of 213 patients studied for vague, mild or definite gastrointestinal complaints.

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PULMONARY DISEASES SYMPOSIUM

The eleventh annual Pulmonary Diseases Symposium will be conducted at Fitzsimons Army Hospital, Denver, Colorado, September 8-12. Colonel James A. Wier, M.D., Chief of the Pulmonary Disease Service will be the director of the symposium. Physicians from the government services, from state and local institutions, and private practitioners are expected to attend.

Hypnosis in Military Medical Practice

By

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HYPNOSIS in military medical practice could be of considerable diagnostic and therapeutic value.

By hypnosis the author means the modern scientific and medical hypnosis; not the hypnosis which is associated with occultism, black magic and parlor tricks.

It might be of some interest to state, that the following incident in World War II, revived interest and pointed out the value of hypno-analysis and hypnotherapy to hundreds of overworked and time-squeezed psychiatrists: a sailor with traumatic war neurosis as the result of torpedoing his ship was completely cured at United States Marine Hospital at Ellis Island by Dr. Charles Fisher. Only four hypoanalytic and hypnotherapeutic sessions were necessary to effect this cure.

The history, theories and the induction techniques of hypnosis are too lengthy to be described in this article. Numerous and excellent textbooks, particularly one by Wolberg,[1] are available for this purpose.

I would like to emphasize very briefly some of the practical points connected with the clinical use of hypnosis:

1. Since the word "hypnosis" suggests to most people something mysterious, supernatural and bordering on black magic, it would be more appropriate, when dealing with patients, to use the term "psychosomatic relaxation." Precisely, the term "psychobiological therapy" could be used instead of "hypnotherapy."

2. Most authorities on hypnosis are of the opinion that it is absolutely harmless, provided that we remember some of its contraindications. These will be discussed later. Erickson,[2] observed no detrimental effects in subjects who were hypnotized several hundred times.

3. The therapist should have a very sincere faith, both in hypnotism and in his skill to practice it. Loss of either one, may result in a rather embarrassing failure. According to Marmer,[3] the hypnotist has neither a secret power nor a mysterious gift. Anyone can learn to hypnotize, but the use of the technique should be restricted to trained and competent practioners.

4. Every subject should be treated by the therapist with utmost kindness, tolerance and understanding.

5. We should never forget, that since no subject can be hypnotized against his will or without his cooperation, an occasional failure with a seemingly willing subject, is no indication for us to discard hypnotism. This would be analogous to a surgeon, who stops performing appendectomies, after having a few patients die following surgery.

6. Sound and basic knowledge of psychology, psychosomatic medicine and psychiatry is essential for those who wish to practice hypnotism.

7. Periodic training at qualified medical institutions, lots of practice, and extensive reading on the subject of medical and scientific hypnosis, will greatly add to the self-confidence and ability of the therapist.

8. We should always remember that hypnotism is not a panacea, but should be used as a tool in therapeutic and diagnostic procedures, in selected cases only.

In peace-time military medical practice, hypnosis is of value in the following conditions: (1) amnesia; (2) in anesthesiology (pre and post-operative); (3) in dentistry; (4) enuresis; (5) fears and phobias (claustrophobia, xenophobia, aerophobia, etc.); (6) various types of hysteria (paralysis, blindness, aphonia, anesthesia, etc); (7) insomnia; (8) various so-called "stress diseases" (peptic ulcer, asthma, pseudo-angina pectoris, etc.); (9) nervous habits (tics, twitches, nail-biting, etc.); (10) in obstetrics; (11) certain types of migraine headache; (12) psychogenic pains (cardiospasm, phantom limb, etc.); (13) pain (relief of

certain types); (14) personality defects (temper, shyness, pugnacity, etc.); (15) psychogenic skin diseases (neurodermatitis, pruritis, dermatitis artifacta, etc.).

Proper methods of hypnotherapy for the above are amply described by numerous well qualified specialists in this field.[4–10, 15]

None of us wants another war. However, we should always be prepared for any eventuality. Should a total nuclear war strike this nation, the medical profession will be confronted by millions of cases of burns, injuries, mass hysteria and other medico-surgical problems, peculiar to nuclear warfare. White[11] states that in such a war the medical support must be capable of operating in the face of destroyed communications. It is precisely at this time of destroyed communications and possible lack of necessary medical supplies, where the knowledge of hypnosis might save many lives, aid in the recovery of the victims, and decrease human suffering.

There are four major indications for the use of hypnosis in time of nuclear war:

1. Pain. Properly applied, hypnosis is a good substitute, to a certain degree, for any type of chemo-anesthesia. Hypnosis not only allays fear, anxiety and tension, but may be used as an anesthetic agent itself, with good results.

2. In anesthesiology. Ideally, hypnosis should be used in combination with chemoanesthesia.[3] It acts as a pre-induction sedative, and reduces the amount of chemoanesthetic agents used. Its post-hypnotic suggestion lessens the incidence and severity of post-operative pain, nausea and vomiting, and increases the ventilation of the lungs. According to Marmer[3] and Raginsky,[12] hypnosis has much to offer the anesthesiologist. Hypnosis can be a pleasant experience, involving no tension or apprehension. It can be maintained for long periods and terminated at will, and it has the superlative advantage of placing no extra load on circulatory, respiratory, hepatic, or renal systems.

3. Burns. Hypnosis not only allays the pain of burns but can be also used when changing painful dressings. Patients with severe burns become weak, depressed, irritable and develop marked anorexia. It is estimated, that this type of anorexia which retards the healing process, prolongs by some 40% the length of hospitalization time of every patient with severe and extensive burns. According to Lewis and Sarbin,[13] hypnosis not only can change a patient's psychological reaction to food, but it will also establish in him a strong desire to eat the food necessary for his health, especially the high-protein foods. According to Pillsbury,[14] large quantities of protein are lost after a burn injury, and skin grafting will take well only as long as a patient does not become completely depleted of his protein reserves. For this reason and to reverse the marked weight loss following extensive burns, early and aggressive efforts toward high-protein feeding should be instituted. In terms of plain arithmetic, let us suppose, that in case of a total nuclear war, we will have a minimum of one million cases of severe burns. If, through hypnotherapy of anorexia, we can reduce by ten days the hospitalization of only 50% of the total cases there would be a saving of five million hospital patient-days. This is equivalent to freeing one 1,000-bed general hospital, to treat other than burn cases, for a continuous period of about five years.

4. Hysteria. Mass hysteria is recognized as a major by-product in any total war. World War II, the Korean Conflict, and other major disasters, demonstrated beyond doubt, that hysteria should be treated as promptly as possible after the onset of clinical symptoms. Early treatment will restore the patient to his normal activities and duties without much delay. Outside of prolonged and time-consuming psychiatric treatments, hypnotherapy, in my opinion, is the only fast and effective therapy for both individual and mass hysteria. Even today we are pathetically in need of psychiatrists, to meet the peace-time demand for their services. What the demand will be for them in time of nuclear war, is a matter of imagination. Group hypnotherapy is the only realistic solution to mass hysteria.

Before we proceed to several illustrative cases, a word of precaution, contra-indications, and disadvantages in the use of hypnosis, might be of value. Among the most common precautions to remember, are: (1) to remove any illusions, hallucinations and delusions, before dismissing the subject; (2) not to influence adversely a neurotic individual. Contra-indications to hypnosis are practically none. Properly used, hypnosis is safer than giving an aspirin tablet to the same subject. The only contra-indication to hypnosis, is the refusal of the patient to be hypnotized. Disadvantages of hypnosis are patient negativism, and the considerable length of time which it takes to produce hypnosis of the desired level. However, the skill of the operator will markedly reduce this time factor. In the author's series of over 1,300 cases of hypnotherapy, only eleven showed no response to induction. In the remaining cases, there was no contra-indication to hypnosis. Several cases, which did not respond to any other type of therapy, showed such dramatic recoveries, that when thinking of hypnosis, the author will always remember the words of William S. Kroger, M.D., of Chicago: "Why use a zircon, when you possess a diamond."

Case Reports

Case 1—A 38-year-old white, married woman was brought in on a stretcher to my office. Patient was crying and stated that she was unable to see, and told of inability to use her legs. Onset was sudden. Patient gave a history that several days before another physician suspected possible cancer of her colon. Routine physical examination was negative except for paralysis and stocking type anesthesia involving both lower extremities, and total blindness in both eyes. She was hypnotized, and during the trance was told that she could see perfectly with both eyes. Patient was then told to stand up and walk. She was awakened while standing. When she looked at her husband, who was present during the treatment, she cried, "Darling, I can see, I can see."

This case demonstrates relief of major hysterical symptoms.

Case 2—Age 54, white, married woman complained of constant cardiac pains for the past seven years. During this period the patient was treated by numerous physicians and she spent a considerable part of her time as a patient in various hospitals, and staying in bed at home. As a waitress, she lost one job after another, because she had to rest every hour or so. Upon questioning, it was found that the patient had suffered similar pain once, at the age of 19. Physical and laboratory examinations were essentially negative. She was hypnotized very easily. Patient was regressed to the age of 19, and it was then revealed, that, although married now for the fourth time, she was actually in love with her first husband only. Patient was given an insight into her pain-causative psychodynamic factor. When brought out of the trance, the patient felt no residual cardiac pain. This patient was given two more "psychobiological" treatments. She has been asymptomatic for over two years, when last seen.

This case illustrates an approach to the dynamics of a psychogenic and behavior disorder, manifested otherwise as a severe pseudo-angina pectoris.

Case 3—Age twelve, school boy, was brought to my office by his mother, complaining of severe abdominal pain, vomiting, and anorexia. After a complete examination a diagnosis of intestinal obstruction was made. Patient was hypnotized very easily in a matter of a few minutes and his pain was relieved. Patient was again re-hypnotized in the hospital while in bed awaiting surgery. Patient was then told, "This bed is not quite as comfortable as it should be, and we are going to put you on another softer bed." In doing so, patient was transferred to the operating table. He was then told to dream about some very pleasant and interesting event out of his life. Local anesthesia of the left cubital area for the injection of intravenous anesthetic was produced. Patient was given a post-hypnotic suggestion that after he awakened, he would feel no pain, have a normal appetite, would sleep well, and feel as good as ever. Surgery for the correction

of intestinal obstruction was performed. During the post-operative six-day stay at the hospital, the patient required no medication at all and ate well. He was eager to go home on the third day.

This case illustrates: (1) pre-operative removal of fear, apprehension, and sedation; (2) removal of the fear associated with seeing masked nurses and doctors, glittering operative lights, threatening surgical instruments, being strapped to an operating table and being hurt with an intravenous needle; (3) complete absence of post-operative pain, nausea, and anorexia, thus eliminating the use of postoperative sedation and other medication; (4) a child who in the future will not be afraid to face surgery.

Case 4—Age 33, white, married man, a total stranger who came to my office, saying, "You do not know me, but I was examined by three other doctors. The X-rays show that I have a very bad stomach ulcer. The doctors told me that I need my ulcer and part of my stomach removed. You were recommended to me. I want you to operate upon me tomorrow. I was unable to eat for the past five days due to severe pain." The patient then produced several recent X-ray reports, all of which described an extensive duodenal ulcer.

The patient appeared rather emaciated, very nervous and apparently in great pain. During the conversation, patient showed mild left facial tic, he was constantly drumming with his fingers, was changing his position on the chair, and was considerably excited. After routine examination, psychobiological treatment was suggested for the immediate relief of his pain, prior to surgery. During the trance state, patient was asked if there was anything that was upsetting his life. To my amazement, the patient talked freely for over ten minutes about his horrible married life, his ever-nagging, overdemanding and otherwise ruthless wife, etc. A short supportive and insight therapy was given during the trance. After being awakened, patient had no residual pain and felt happy and relaxed. Patient was sent to a hospital, where further hypnotherapy was given. On the third day patient felt so good, that he was released from the hospital. During the next five weeks, nine more hypnotherapeutic treatments were given, utilizing free association, piecemeal disintegration of the patient's resistances, reintegration into consciousness of the repressed material, and the redistribution of the psychologic energies formerly exploited by the symptom; thus allowing the patient insight into his causative psychodynamic factors.[5] During this entire period of treatment, outside of hypnotherapy, no medication whatsoever was prescribed, and the patient was not placed on any kind of diet. Ten weeks after the initial visit, patient was X-rayed by a competent radiologist, and no trace of peptic ulcer nor any other gastro-intestinal pathology was found. After two years, patient is still asymptomatic. Incidentally, a month after the patient was discharged, his wife asked the author to re-hypnotize her husband, because he was eating the family out of his earnings.

This case illustrates the application of hypnotherapy in the so-called "stress diseases."

Case 5—Age 29, a truck driver, white, married, was in a head-on-collision. He was brought to the hospital, suffering with multiple soft tissue lacerations, and second and third degree burns of his upper extremities, face, and neck. For the first five days following surgery, he ate very little, resulting in a mean caloric intake of about 1,400 calories. He became weak, depressed, sullen and irritable. Following several hypnotic sessions, his pains were practically gone and his caloric intake reached a maximum intake of about 8,000 calories. A post-hypnotic suggestion was made, that he could not only eat large amounts of food with relish, but would also eat certain foods which he had rejected before, namely—proteins. After this, the patient made a rapid and uneventful recovery.

This last case illustrates the use of hypnosis in a case of anorexia associated with burns.

Summary

Hypnosis in this article deals with medical hypnosis and not parlor tricks.

The term, "psychomatic relaxation," might be used when dealing with patients instead of "hypnosis."

Most authorities agree that hypnosis is harmless provided we remember some of its contraindications.

The therapist must have both faith and skill in hypnotism.

Hypnosis is not a panacea, but it can be used in medicine as a tool for diagnosis and therapy in selected cases.

Hypnotism could be used to advantage in mass hysteria, such as would result in nuclear warfare.

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CONTINUE THE CAMPAIGN AGAINST POLIO—VACCINATE

Post Traumatic Headache

By

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IT HAS been repeatedly demonstrated that cell bodies during development have a tendency to migrate toward the area of the organism where stimuli are most frequently encountered and received. In higher animals and in the human species in particular, the head has therefore been endowed with great importance which has anatomical, physiological and psychological significance.

Grinker and Robbins[1] emphasize: "It is not surprising that injury or threats to the head should be associated with profound anxiety and apprehension of disintegration." Within a certain frame of reference, such anxiety and apprehension have a basis in realistic fact, since "losing one's head," with the special sense organs contained in this part of the anatomy, is the most serious threat to the operation of the thinking human organism. The head, however, has been endowed by the human with such special symbolic significance that even minor injury is frequently interpreted by the affected individual well out of proportion to the actual damage that may have been incurred.

INCIDENCE OF HEADACHES

The most frequently found symptom following minor to moderately severe head trauma is headache. This complaint is the second most frequent presenting complaint of all patients coming to medical attention, following in prevalence only the complaint of constipation. Although no thorough study has been made in the Armed Forces, I am impressed with the probability that headache is the most frequent presenting complaint among those of the age group coming to military medical attention.

TYPES OF HEADACHES

It is important to recognize that headache is one of the best examples of a symptom rather than a disease and that probably only a fraction of 1 per cent of all patients with the symptom of headache are suffering from a serious disease of the central nervous system, such as an intracranial neoplasm. Various authors have classified headache into many categories. With the exception of those headaches related to changes in intracranial pressure and those related to major circulatory changes within the central nervous system, the most convenient classification of headaches seems to include: those considered to be migraine headaches; those fairly easily seen to be resulting from emotional tension; and those noted following trauma. In reporting a series of 4,500 patients with the complaint of headache, Ogden[2] found that only 11.9 per cent fell into a broadly defined category of migraine headaches. The diagnosis of migraine has been well documented in various publications and will not be dealt with further here.

IMPORTANCE OF PSYCHOGENIC FACTORS

Most medical practitioners today are showing an increased understanding in the handling of those individuals whose primary complaint is headache and who are obviously developing such pain as a result of tension. Unfortunately when a history of trauma is given by the patient and is related to the headache, a different frame of reference seems to be established in the evaluation of the individual by the doctor. Although most doctors agree that the majority of headaches are due in great part to psychological, rather than physiological or anatomical difficulties, a belief persists that following trauma to the head, an anatomical or physiological explanation as to the primary causal factor for the headache should be found. Thus an

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inordinate amount of time is consumed by military doctors in evaluating the cause of headache following trauma to the head. It is my major premise that much of this unnecessary time in evaluation and attempted treatment can be avoided if certain significant features of the so-called post-traumatic headache are understood and accepted by those of us seeing such patients in the military service. I shall therefore discuss the relationship of trauma to the symptom of headache and make some brief suggestions as to the possible management of patients presenting such a symptom following trauma.

The degree of actual pathologic change in cranial anatomical contents following head injury is difficult to establish in all save a few classical types of disorders due to trauma. No attempt will be made in this paper to discuss the symptomatology and treatment following subdural, epidural or subarachnoid hemorrhage.

Almost all investigators have observed that the parenchyma of the brain proper is insensitive to pain. On the other hand, certain of the protective covering tissues of the brain, together with dural arteries and intracranial venous sinuses, have been demonstrated to mediate painful stimuli originating both from within and without the central nervous system. In addition, the fifth, ninth and tenth cranial nerves, as well as the upper cervical nerves, carry pain sensations.

In the opinion of Wolff,[3] mild traumatic damage to the protective and circulatory elements just mentioned can be expected to result in sensations of pain for a brief time following injury but should not result in chronic headaches on an anatomical basis alone. Trauma to the cranial or cervical nerves noted will give a clinical picture which, in the majority of cases, with relatively simple physical examination procedures, should be apparent. Since most patients complaining of pain following trauma have not suffered severe damage to the circulatory elements nor incurred injury to cranial and peripheral nerves, the evaluation of this large remaining group is of primary importance. Wolff has further demonstrated, and others have corroborated his work, that the degree and severity of headache following trauma is not proportional to, nor does it seem to have any relation to, the degree and nature of the head trauma. We are concerned here with patients who have had trauma covering the range from cerebral contusions and concussions to mild bumps on the head without loss of consciousness.

Classification of Post-Traumatic Headaches

With the exception of those headaches related to subdural hematomas, subarachnoid hemorrhage and to adhesions involving pain-sensitive structures in the arachnoid, Wolff has divided chronic post-traumatic headaches into three groups. The first group includes those patients who complain of a steady feeling of pressure or aching type pain, either in a cap-like distribution or in a circumscribed area removed from the site of the injury and associated with tenderness to pressure. In the second group, the patients complain of a similar pain as in the first group, but in addition have complaint of tenderness at the site of the impact or in the scar. The third group includes those patients who have attacks of throbbing, aching pain, usually unilateral and occurring chiefly in the temporal, frontal, post-auricular or occipital region.

Causes of Post-Traumatic Headaches

Most individuals in our society have incurred mild to moderate head injuries at some time during their lives. It is a rare soldier in the military establishment who has not been hit on the head with some object or has not bumped his head into some object during his period of military duty. It is not surprising, therefore, that a great number of patients complaining of head pain relate this pain to some type of physical injury to the head. It is imperative that the military medical officer be aware of the fact that the chances are almost 99 out of 100 that the complaint of head pain following trauma is not the result of any irreversible anatomical

changes within the central nervous system. It is my belief that the vast majority of so-called post-traumatic headaches are, in fact, nothing more or less than tension headaches, or perhaps we should say, psychogenic headaches. They are complicated by a history of trauma which may have first instituted the pain, but which the patient later uses in such a way that the physician is most likely baffled. This is not to imply that the headache is malingered, but a consideration of the psychogenic factor may give us a better basis upon which to proceed with the management or therapy.

These concepts achieve a startling significance during periods of mobilization or in times of war. It has never been determined how many individuals were harmed or how much the military establishment lost by the use of the term "shell shock" during World War I. This "wastebasket" diagnosis, implying anything from severe concussion to a mild anxiety reaction, was replaced during World War II and the Korean conflict by another term no more happily chosen, namely "post-concussion syndrome," from which hundreds of individuals were said to be suffering. Such a diagnosis was frequently made when no objective evidence of head injury was present and at times when the patient concerned presented only a fragmented history of fear, caused by a near-miss by some exploding instrumentality of war.

Procedure for Diagnosis

What can the individual doctor do when seeing a patient complaining of headache associated in the mind of both with a history of trauma? First and foremost, he should take an adequate history and conduct an adequate physical examination to include a neurological examination. Referral of such a patient to a neurologist or a psychiatrist should rarely be indicated; yet it must be stated that neurology and psychiatry clinics throughout the Army are literally overflowing with such referred patients. In taking a history from such patients it is mandatory that as good a description as possible be obtained of the alleged head injury, but equally important, a history regarding emotional stability before and after the trauma should be elicited. Relatively few individuals with serious intracranial or peripheral defects need be missed if the doctor conducts an adequate physical examination at the time of the patient's initial visit. Those occasional individuals who have suffered relatively serious trauma, productive of unconsciousness and requiring hospitalization, will naturally be better evaluated if the clinical records of such hospitalization can be obtained. The utilization of the new Army individual health record should be of great value in this respect, and, hopefully, repeated hospitalizations for repeated physical examination, laboratory and x-ray studies can thereby be avoided.

As previously stated, the head is a very prized possession of the human being. One can therefore expect that following trauma involving it anxiety will arise. Certain dynamic factors present in many individuals will tend to increase this anxiety and to render somatization more probable. This type of person in reacting to injury often experiences feelings of humiliation, guilt and hostility, resulting from feeling literally "floored" by the trauma. These mechanisms are particularly marked in two groups: (1) those who have had marked strivings to demonstrate their masculinity or a pressing necessity to maintain an omnipotent picture of themselves; (2) those who have developed rigid, but not totally successful, obsessive compulsive defenses so that they may hopefully reinforce themselves against stress. In either case an injury of this type destroys the person's equilibrium in both a literal and a more symbolic way.

Except in those individuals, however, who have previously been leading such precarious adjustments that any stress could be expected to render them disabled, these mechanisms are probably not the most important determining factors in allowing continuation of the headache. Rather, it is believed that the secondary gain which arises when the expected headache is first noted plays a greater role in perpetuating this symptomatology. The symptom becomes a way out of a distressing

or an unliked situation. It is amazing to what lengths the symptomatology can be consciously or unconsciously used by individual patients and how successful the patient can become in manipulating his environment because of his headaches. This environment includes all too often the doctor evaluating him.

We were recently called upon to evacuate a U. S. Navy patient because of persistent headaches following trauma to his head, which was a result of his having bumped himself on the bulkheads of his ship. The man was well over 6 feet tall and was obviously not very careful in avoiding contact between his head and various parts of his ship. His headache unfortunately became an open sesame for his relief from distressing duties.

During the Korean campaign literally hundreds of patients with the complaint of headache presented themselves to doctors in much the following manner: "Doctor, I can do my job if you'll only get rid of this headache for me." When they added, as they almost invariably did, that the headache was due to some type of blow on the head, many doctors took the path of least resistance and sent the patient further along the channel of evacuation for further studies. This only reinforced the patient's secondary gain, increased the severity of the headaches and made it more difficult to return the patient to any useful occupation within the military establishment. Uncomfortable life situations are known to literally produce headaches and the fact that there is objective evidence of head trauma does not seriously change much of the basic problem.

There is a strong tendency among doctors to consider it their primary responsibility to make their patient comfortable and to take pain away from him. When we are dealing with a patient with persistent headaches the doctor has almost three strikes against him if he hopes to achieve this allegedly humanitarian aim. Furthermore, the doctor is doing his patient a great disservice if he behaves in a perplexed and disturbed manner, throws his hands up in dismay and sends him on to the next doctor. Such a practice only adds to the patient's belief that sometime, somewhere, some physical explanation will be found for his complaint, or that he can escape stressful situations through his symptoms.

Management

It is therefore recommended that when a good history and adequate physical examination produce no definite evidence of a causal relationship between the trauma and a continuing headache, the doctor turn his attention to the possible ways that the headache serves the needs of the patient. If the secondary gains seem apparent, as they invariably will, the doctor should say something similar to the following to his patient: "You have been thoroughly examined. I find no evidence of serious disease. The blow to your head, although it may have started your headache at first, has not caused any permanent damage. If you understand and accept these facts, your headache will improve and may eventually disappear. No further studies are indicated. You do have a headache, but this is not an indication of serious physical illness."

The patient should also be told that his headache does not incapacitate him from carrying out his responsibilities and that he will therefore be returned to duty. Such a discussion with a patient must be handled in an objective, friendly, but firm manner. It is not always easy for a doctor to talk with a patient in this way. All too often when doctors find no physical explanation for a symptom of this type, there is a tendency for them to react with anger and to dismiss the patient abruptly. On the other hand, some doctors will attempt various palliative methods, and when dissatisfied with the response from their patient, will refer him to others, apparently in the belief that some other doctor may find some magical remedy. Neither attitude on the part of the doctor is helpful to the patient, as should be apparent.

Objections to Suggested Management

There will be those who may contend that serious physical illness will occasionally be missed by such management. To them let me say that if such illness is present and has

been unfortunately missed, there is only a remote possibility that the patient will not soon be seen again and the condition noted. Further, it is my conviction that the number of patients who have undergone extensive laboratory and sometimes surgical procedures for nonexistent physical disease is greater than the number of patients with disease who have been missed on the premise that their condition was a psychological one.

There may be others who will contend that this management is unsympathetic, even nonpsychiatric. It has been my experience that attempts at either short term or lengthy psychotherapy with patients having the conscious goal of removal of the headache and little willingness actually to grapple with the underlying problems, do poorly when given such therapy. There may be an occasional patient whose emotional difficulties are such that psychiatric treatment may be indicated for reasons other than the existence of the headache. For the vast majority of the patients whom we are discussing, however, a consistent approach on the part of doctors, as outlined in the suggested management, is far more likely to produce results than any embarkation upon a lengthy pyschotherapeutic regime.

Conclusion

There is no approach which will not result in occasional errors, but I am convinced that the suggested management just referred to can result in better utilization of manpower, as well as better management for the individual patient. Experience has demonstrated that those patients shuttled back and forth from one installation to another and from one specialty clinic to another invariably continue to experience headaches, rendering these individuals useless to their country and to themselves. On the other hand, those managed objectively and promptly, preferably by the first physician seeing them, frequently relinquish their headaches and go on to be productive for the Army and for themselves.

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Age Changes in the Periodontium*

By

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THE importance of current information about the care and treatment of degenerative disease conditions is obvious in view of the increased average life span of today's human population. In 1900, at the beginning of the century, 4 per cent of the United States population were over 65 years of age, while 18 per cent were 45 and over. Fifty years later, 6.8 per cent of the population were over 65 and 27 per cent were 45 and over. From a mean length of life span of 35.5 years at the time of the American Revolution, this figure has moved to 50 years in 1900 and 65+ years in 1950.[1]

The process of ageing results in certain physical, mental and emotional changes, many of which are obvious, not only to the sensibilities of the individuals involved, but also to the perception of a keen observer. These changes have been subjects for much speculation and, more recently, for scientific research. The latter has been concerned with the proclaimed objective of understanding physical changes and their emotional counterparts. It is recognized that there are often found in persons as they get older, feelings of loneliness and apathy, fatalism and ineffectuality. Physicians, and particularly the psychiatrists, have been responsible for the care of these persons. More and more it is being realized that here again there is the need for professional collaboration, if these people are to be given the most complete care and treatment.

In his professional role, the dentist must contribute to the medical team, and the goals of this team should encompass the promotion of happiness and contentment, during a period of dynamic adjustment to those inevitable internal and external changes, inherent and associated with the processes of ageing.

It is generally conceded that periodontal pathoses are associated with the ageing process. As a consequence it has been suggested that the dentist in general and the periodontist in particular, should display a special interest in the subjects of gerontology and gerodontics.

TISSUE CHANGES IN AGEING

The most striking and spectacular oral changes which accompany old age are loss of the teeth with the resultant reduction in intermaxillary dimensions, and an increase in prominence of the chin.

Goldman[2] has pointed out that, with age, the tooth becomes worn down and the bite tends to become edge to edge. Insofar as the tissues of the periodontium are concerned, present knowledge about age changes is not voluminous. The following represents a brief summary of such information:

Gingivae. The factor of high visibility of the gingivae renders these tissues in the vanguard of immediately detectable age changes. Color, location, consistency, architecture—these are all factors which are readily seen and in which changes are relatively easily identifiable. Physiologic and pathologic color changes in the gingivae have been investigated by the author.[3,4] The probability of an increase in gingival color with age was discussed. There is a need for specific studies in this area.

The question of location of the gingivae is one in which there is increasing interest. The area of the epithelial attachment varies in different locations on the same tooth, on different teeth, in different individuals and at different ages. Gottlieb[5] theorized that with increasing age, the epithelial attachment proliferated downward from the enamel until it was entirely on the cementum, and con-

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tinued to proliferate apically throughout life. Orban[6] points out that as long as the gingival and transseptal fibers remain intact, the downgrowth of the epithelial attachment along the cementum is impossible. Whether degeneration of fibers is primary or secondary to epithelial proliferation is not known, although recent findings indicate that the destruction of fibers is secondary, the proliferating cells actively dissolving the principal fibers by enzyme action (desmolysis). As a result of Orban's observations that epithelial proliferation is always associated with inflammatory processes, destruction of periodontal fibers, presence of calculus and bacterial films, it would appear that there is a lack of unanimity in acceptance of the concept of continuous passive eruption, and therefore, there is a need for re-examination of this theory. No changes in the composition of the epithelial attachment have been attributed specifically to age.

In contrast to the toughness and rapid reparative processes of the gingivae in youth, there has been recorded a friability and ease of tissue injury in old age and slowing of the reparative processes. A loss of stippling of the gingival surface with a resultant edematous appearance has been observed as a manifestation of age.

Orban[7] and Robinson[8] agreed that keratinization is associated with the cytomorphosis of stratified squamous epithelium and consequently some degree of keratinization exists on the gingivae in all areas. The thinning or absence of a keratinized layer on the gingivae as a result of ageing specifically, has been proclaimed but not substantiated.

Insofar as age changes in gingival architecture are concerned, it has been observed that the apical downgrowth of the epithelial attachment is accompanied by an abbreviation and a rounding of the interdental gingivae. Specifically, the gingivae, epithelial attachment and alveolar bone move with uniformly deliberate speed, devoid of clinical inflammatory signs and pocket formation. This is in distinct contrast to the occurrences in periodontitis, periodontosis and occlusal traumatism. Rather than the inflammatory hyperplastic reaction which occurs in the adolescent, chronic irritation of the gingivae in the aged usually results in their atrophy and recession.

Periodontal Membrane. It has been recognized that the structure of the periodontal membrane is changing constantly so as to accommodate the vacillating demands of a continuously moving tooth. Among the structural changes which have been listed as the result of ageing are the reduction in prominence of the principal fibers following a reduction in function, and the occurrence of cementicles in the periodontal membrane. These cementicles are calcified bodies and they may remain un-attached, more or less free in the connective tissue space, or they may become fused into larger units. In addition, they may become embedded or joined with the main cementum.

The variation in thickness of the periodontal membrane as a result of the ageing process has precipitated its share of disagreement. It is acknowledged that function plays an important part in the thickness of the periodontal membrane. As a result of this, Kronfeld[9] was inclined to emphasize its effects on the membrane's thickness and to minimize the role of any other factors, age included. He stated that age had no noticeable effect on the thickness of the periodontal membrane. In a significant study of measurements of the periodontal membrane, Coolidge[10] presented data which indicated that a reduction in the width of the periodontal membrane did occur with age.

Orban[6] demonstrated that the fibers of the periodontal membrane became distended on the distal side of a tooth and were relaxed on its mesial surface,—a condition resulting from the mesial migration tendency of teeth. Contact point attrition was the cause of this drift and was, of course, more obvious as a person grew older.

It has been recorded that there are various atrophic, hypertrophic, inflammatory and degenerative changes which occur in the periodontal membranes of aged individuals. It must be recognized that presently available epidemiological studies indicate that some

forms of periodontal disease, with or without other systemic diseases, are quite prevalent. The attributing of specific periodontal membrane changes solely to age, is rightfully subject to question.

Bone. There are distinguished: (1) the alveolar bone proper, a thin cortical plate of compact bone lining the tooth socket and adjacent to the periodontal membrane, and (2) the supporting bone surrounding the alveolar bone, which consists of a cortical plate of compact bone, and the spongy cancellous bone between the lamina dura and the cortical plate.

It is felt that the cancellous bone may be affected by metabolic influences and by ageing. Under such conditions as old age, lack of function, nutritional deficiencies or hormonal dysfunctions, this bone may show osteoporosis. The alveolar bone proper is influenced more directly by function, and the tension exerted upon it by way of the fibers of the periodontal membrane.

The margins of the alveolar bone are altered with advancing age. As a result of mesial drift of teeth and associated interproximal contact attrition, there is a tendency for bone resorption to occur on the mesial and bone apposition on the distal surface of the alveolus. Linghorne[11] and Box[12] indicated that ageing bone tissue may be maintained in physiological balance as a result of occlusal attrition which tended to prevent excess stress on the reduced alveolar bone.

It has been demonstrated that the osteocytes lose their vitality with advancing age. Overaged bone with a lowered vitality, because of its changed chemical nature, acts as a stimulus for the differentiation of osteoclasts which eliminate overaged bony tissue no longer adapted to mechanical stresses.

There is no evidence that there are changes in the alveolar process solely and specifically attributed to age.

Cementum. Two types of cementum must be differentiated. Primary cementum is that acellular calcified tissue which is first formed in apposition to the radicular dentin. Secondary cementum is a cellular type and is found on the apical root surface and at the bifurcations of roots of molars and pre-molars. Cementum is slowly and continuously deposited throughout life, and may be either primary or secondary.

Thoma and Goldman[13] believe that secondary cementogenesis compensates for the continuous eruptive movements of the functioning tooth and the continuous reorganization of the periodontal membrane necessitated by these movements. Although confined to the apical one-third in young teeth, secondary cementum extends more towards the cemento-enamel junction with advancing age. It is probably true that the thickening of the cementum with advancing age and the simultaneous resorption of alveolar bone prevent the thickening of the periodontal membrane.

Under normal conditions, cementum is not resorbed. If a layer ages and loses vitality, the periodontal connective tissue and cementoblasts produce a new layer of cementum on the surface. Henry and Weinmann,[14] however, have reported the presence of small areas of root resorption with advancing age. Cemental tears, which are found in 10-12% of human dentitions are the result of trauma, and have no direct correlation with ageing.[15]

Comment

It is obvious from a casual observation of the aforementioned factors that there is a lack of information about many areas in age changes of the periodontium. There is noted an inclination to segregate, arbitrarily, anatomical and physiological phenomena observed in the periodontium, and assign to them those attributes of tissue degenerative changes usually associated with the ageing process. These tendencies must be supplanted by an insistence upon accuracy of knowledge of the physiology and anatomy of the periodontal tissues.

Much has been written about the increase in incidence of periodontal disease with old age, and its probable relation to increased susceptibility. It may be logically assumed that the periodontal tissues, like any other tissues, have their own time curve of ageing

which depends upon heredity, internal environment and oral environment. It would seem that there is a need to re-examine some of the commonly held concepts which, with little or no challenging, have been accepted as authoritative.

The studies of Brekhus[16] at the University of Minnesota and Allen[17] at the University of Michigan are frequently quoted to support the contention that after 45 years of age, there are more teeth lost from periodontal disease than from any other single disease. More recently, a study was undertaken by Krogh[18] to determine whether periodontal disease was responsible for the loss of more teeth than caries or vice versa. His analyses were based upon 2,331 extracted teeth from 744 males and 4,478 extracted from 1,593 females. Among the significant findings of this study were: (1) caries is about twice as destructive to the human dentition as periodontal disease, (2) in males, periodontal disease led caries as a cause of tooth loss in three decades between 40 and 69 years of age, (3) at 70 and beyond, more teeth are lost from caries than from periodontal disease in both sexes, (4) in both sexes, caries took its greatest toll in the 30-39 decade with periodontal disease building up to parity between 40 and 70, (5) males lost substantially more teeth from periodontal disease than females. These findings do not bear out the conclusions of Brekhus and Allen.

A recent analysis by the author of the reasons for removal of 3,455 teeth from 1,152 males over a 12 month period at the Veterans Administration Hospital, Tuskegee, Alabama, indicated that 2,438 teeth (approximately 75%) were removed in this clinic on account of periodontal disease. Furthermore, over 80% of the patients were 40+ years. This would tend to support the contention that more teeth are lost from periodontal disease than from any other single cause. It is to be noted that an overwhelming majority of these patients are Negroes, hospitalized for neuropsychiatric disorders. In a more recent epidemiological study, Russell[19] indicated that Negroes showed a higher prevalence and a greater severity of periodontal disease than whites at all ages.

Conclusion

In view of the large amount of information which we do not have, it is essential to review previously held concepts and institute studies to determine the truth about these matters. Periodontology must emphasize and insist upon the clarification of issues pertaining to age changes in the periodontium. This can be accomplished by the espousal of scientific research and adherence to scientific methodology.

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"TOBACCO CONSUMPTION AND MORTALITY FROM CANCER AND OTHER DISEASES"

Here is capsule information taken from Dr. Harold F. Dorn's report (above title) given at the Seventh International Cancer Congress, July 8, in London. The study is statistical and did not include any clinical or laboratory research. Dr. Dorn is chief of Biometrics at National Institutes of Health, Bethesda, Md.

Deaths (U. S. Government Life Insurance Policyholders) in period of report (July 1954-December 1956—198,926.

This report covers 7,382 deaths. Smokers —6,203; nonsmokers—1,179. (2,771 of smokers were regular cigarette smokers.)

Ages of those studied—30 to 90 with majority between 50 and 70; service in Armed Forces between 1917 and 1940.

Death rate from all causes of persons who used tobacco was 16 per 1,000 compared with 13.1 per thousand for persons who never smoked. Adjusted for age, the death rate was 32% higher for smokers than for nonsmokers. Regular cigarette smokers had a greater death rate from certain respiratory diseases such as bronchitis, pleurisy and emphysema, from ulcers of the stomach and duodenum, and from cirrhosis of the liver.

Cigarette smokers had a 58% greater death rate than nonsmokers.

Lung cancer rate 10 times that of nonsmokers.

Death rate increased as the number of cigarettes smoked each day increased.

Death rate of persons who regularly smoked cigars and/or pipes was not significantly higher than that of nonsmokers.

Nearly two-thirds of the 6,203 deaths of tobacco users studied were attributed to diseases of the kidneys, blood vessels and heart. Death rate from coronary heart disease was 63% higher for regular cigarette-only smokers than for nonsmokers.

Dental Service Utilization of Orthopedic Brace Shop Facilities

By
HEYL G. TEBO, A.B., M.A., D.D.S.*

THE growth and development of medical centers have made many facilities accessible to the dental staffs of these installations which would not be readily available to the private practitioner. One of the services that has been utilized at this station with continuing success is the Orthopedic Brace Shop for the fabrication of extraoral appliances in the treatment of fractures of the maxilla and mandible. Many types of extraoral appliances have been described in the literature since Barton described his bandage in 1819. No original designs have been evolved here, but standard brace shop materials and technics have been applied to the needs of the Dental Service.

The case illustrated was a bilateral fracture involving the neck of both mandibular condyles. This patient had an edentulous maxilla and only six lower teeth remained. An acrylic splint was fabricated by the Dental Service and used in conjunction with the head band and chin strap. The appliance was fabricated as follows:

The head band was made of 1½" width cotton webbing supported by 1" cotton webbing with tooling calf leather at either end for the attachments. The chin piece was lined with horsehide leather (or it may be lined with adhesive moleskin plaster). Standard shoe hooks were used for the attachment of the traction devices, which were ordinary large rubber bands.

The chin strap may also be attached with webbing buckles which would permit other types of retention. The position and direction of the straps leading to the chin piece may be changed to obtain the necessary forces desired by the oral surgeon. The chin piece may be further modified by being formed of aluminum or quick curing acrylic

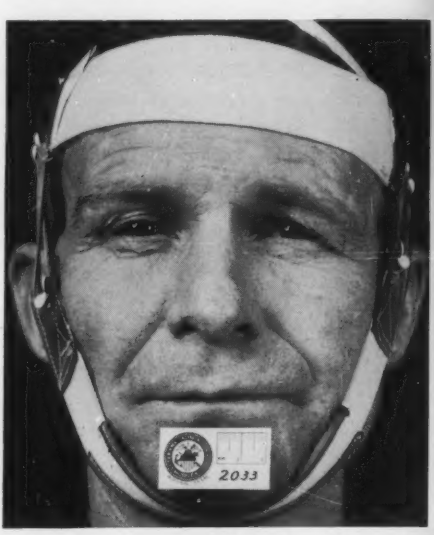

FIG. 1. Headcap for stabilization of bilateral condylar fractures.

FIG. 2. Side view of headcap for stabilization of bilateral condylar fractures.

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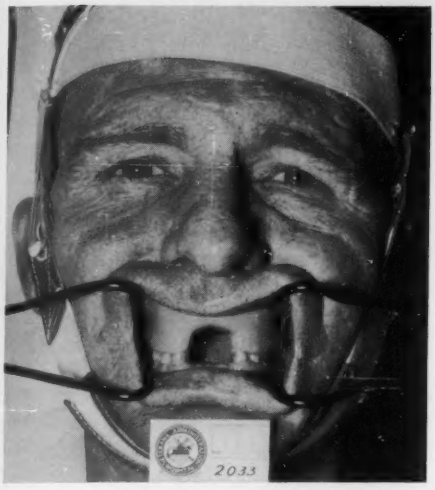

FIG. 3. Acrylic splint used in connection with headband.

for more definite stabilization. The appliance may be fabricated directly on the patient in the Orthopedic Brace Shop if the patient's condition permits. In non-ambulatory cases, careful measurements can be made and the appliances fabricated in the shop and fitted on the ward. Such appliances have been found to be well tolerated by patients as they are lighter and more comfortable than plaster, paper or metal caps. They may also be removed for necessary care of the hair and shaving.

This appliance is not intended to replace plaster or metal when force is needed to exert considerable pull other than in an upward and backward direction. The utilization of the appliance is limited only by the ingenuity of the dental surgeon and the brace shop technician in each case.

AIR FORCE SURGEON GENERAL RECEIVES HONORARY DEGREE

Major General Dan C. Ogle, Surgeon General of the U. S. Air Force, had the honorary degree of Doctor of Laws conferred on him by his Alma Mater, Eureka College, Eureka, Illinois, at the commencement exercises on June 8. General Ogle presented the commencement address.

General Ogle received his B.S. degree from Eureka College in 1924 and entered the University of Illinois College of Medicine in 1925, from which he graduated in 1929, and then entered the U. S. Army Medical Corps. Early in his career he became interested in aviation medicine and received assignments accordingly during his service with the Army. When the Air Force became a separate department he was transferred to its Medical Service and became Deputy Surgeon General and in June of 1954 assumed the position of Surgeon General.

Nurses and the Air Force Reserve Program*

By

LIEUTENANT COLONEL GRACE J. HAYDEN, USAF(NC)†

THE magnitude of World War II, the Korean venture, and the atomic era have shown Americans everywhere the need for strength through preparedness. The Air Force Reserve, along with other military services, is a Federal force raised, trained, and maintained through Federal authority and by Federal funds.

Its mission—to organize units and train individuals effectively for quick mobilization in the event of a national emergency.

The Reserve Program is the chief function of the Continental Air Command. Its efforts are directed toward accomplishment of two major segments of its multi-function mission. Its first responsibility is administration, logistical support, and training of the Air Reserve forces. The other, supervision of training and inspection of Air Nationl Guard units.

ConAC also supervises the operation of four subordinate Commands—the First, Fourth, Tenth, and Fourteenth Air Forces.

First Air Force is located at Mitchel Air Base, New York. Its geographical area includes states from Maine to Virginia and Kentucky.

Fourth Air Force, at Hamilton Air Base in California, includes the nine states west of Utah.

Headquarters Tenth Air Forces located at Selfridge Air Force Base in Michigan covers states from Indiana to Colorado.

Fourteenth Air Force located at Robins Air Force Base, Georgia, consists of states from North Carolina to New Mexico—12.

Another and important ConAC function is the Air Reserve Records Center at Denver, Colorado. The Records Center contains master personnel records of all Reservists not in active military service except general officers, retired reservists and deceased.

The Air Force Nurse Corps is made up of registered, professional nurses, male and female, in all specialized fields of nursing.

The mission of the Nurse Corps is to provide nursing care essential to satisfactory performance of the Air Force Medical Service. Because of the vital role nurses have played in the past and will play in the future in national defense, a *permanent Nurse Reserve Force* has rightfully become a *second line of defense.*

There will consequently be a *great need* for *trained* nurse Reservists over and above the ready force.

Nurses, as officers in the Air Reserve, may continue to serve in civilian posts, and it is essential that they be prepared to *quickly* and efficiently assume military duties in time of war or national emergency. They must be informed on current nursing practices and military matters which they absorb by attending Reserve meetings. To receive pay for their training they must be assigned in the Ready Reserve, to either a medical unit or a moblization position, and participate in Reserve training. They must be given non-mobilization assignments in which they receive training in a non-pay status. In each of these categories points are earned toward retention and retirement.

Non prior service nurses may be appointed to fill authorized position vacancies in Ready Reserve units, however, only to those units that have a Chief Nurse assigned who has had prior military service.

Reserve nurses may serve on extended active duty, and many of them are at present. When they are separated from active duty they are eligible to join an active Reserve unit or receive training in an Air Reserve Center.

Reserve nurses in an active duty status

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* Presented at the First Annual Medical Department Symposium, U. S. Naval Hospital, Portsmouth, Virginia, October 17, 1957.

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receive a uniform allowance, educational and training opportunities, and sales store, commissary, base exchange, and club privileges.

More spaces exist now for nurses than ever before. Now we have the Match-Merge program. Match-Merge is new, effective 1 June 1957, and is well underway at all ConAC Reserve Training Centers.

Specifically, Match-Merge calls for the matching and fusing of various grades and skill specialties possessed by Air Force Reservists, with definite positions required by major air commands in event of mobilization.

All major air commands took part in developing these requirements; and for the first time, Air Force Reserve has a sound and logical basis—training Reservists against specific requirements. Established requirements cannot be exceeded because expenditure of funds for Reserve training in excess of mobilization requirement cannot be justified.

Ten Air Force Reserve hospitals were activated in April '57; their locations are in large cities from the East to the West coast, Boston, New York, Chicago, San Francisco, to name a few. They provide Category "A" training through 48 training periods and two weeks of active duty each year. Nurses assigned to these hospitals may attend special schools and take courses that are open to Reservists. Nurse authorizations range from 30 in the 250 bed hospitals to 109 in the 1000 bed hospitals, and in rank from 2nd Lieutenant to Lieutenant Colonel.

Our objective is the maintenance of a Ready Reserve Nurse Program to meet "M" Day requirements. With implementation of the Match-Merge Program and activation of Air Reserve Hospitals, this goal is gradually being realized.

The Reserve Program for nurses consists of unit training, special schools and courses, and correspondence courses. Reserve Centers include courses in engineering, communications, personnel management, administration, and supply leadership. Some of these are of no particular interest to nurses but are good for points. In the current Center program no specialized course materials are available for medical training. Such a course is being prepared and it is hoped will be available by September, 1958. In the interim, Medical Service officers and airmen will be enrolled in other appropriate specialized training classes, provided they meet prescribed eligibility criteria.

The question sometimes is, "Why do professional people—especially physicians and nurses, require military training?" I don't know what your views are, but I thoroughly agree with Captain Gibson, former Chief Nurse of the Navy, who spoke on the role of the Navy nurse in total defense. She said, in substance, "With modern warfare tactics, nurses, whether military or civilian, should be prepared at all times to meet any and all emergencies. It is true that military experience, in itself, provides the nurse with certain knowledge and skills which could be acquired in no other way except through participation in the military. The nurse adjusts to new situations and to new people with greater ease and rapidity. She learns to move on short notice and to take things in stride. In a changing world this is a valuable asset. The nurse comes in contact with a greater variety of ideas, techniques, procedures, and facilities for emergency treatment, for rapid transfer of patients, and for patient care than she could possibly meet in the same length of time in the average civilian institution." Captain Gibson's points are well expressed.

One project was initiated for point-gaining credits through attendance at national and state nurse conventions. This project met with a great deal of opposition but not from State Nurses' Associations. Current regulations do not authorize awarding of points for all medical and nurses conferences. However, the project has not been dropped. It is now being pursued in the hope of acquiring partial credit for attendance at Nurse Conventions, credit to be given for that portion of the program which pertains to military matters or civil defense and may, or may not be, military sponsored.

A plan to establish a nurse position in

each ConAC numbered Air Force to work specifically with the Reserve Nurse Program did not materialize. This plan lacked full concurrence of the numbered Air Force Surgeons and finally met with total disapproval in the light of recent budgetary curtailments.

Steps have been taken recently to establish parallel recruiting. By that, we mean all nurse recruiting for active duty and active Reserve units should be performed by the Nurse Recruiting personnel, currently recruiting for active duty only. The final outcome of this is yet to be determined.

America throughout its history has steadfastly held to one specific military concept, the maintenance of a relatively small, regular force augmented by a strong militia or Reserve.

An article which appeared in the Air Force Digest, November, 1956, says substantially, "Historically the United States has depended on its civilian population to provide the necessary manpower to build up the military force in time of national emergency and war. Until recent years there has generally been sufficient time to mobilize and train the forces required to terminate a conflict successfully; but the nation will probably never again be so fortunate as to have an opportunity to conduct the complex training essential for today's air operations.

As science expands the range and spread of our aircraft and the power of our weapons, they become more fearsome and complex; and the necessity for the pre-trained individual increases. The only answer to the problem, then, is to build and maintain a Reserve force trained and equipped to the highest degree in order to have combat-ready forces in the event of sudden emergency. To this end, the Air Force has given top priority to its Reserve program."

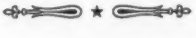
General Hatch, Air National Guard (Hq ConAC) says, "Reserves must be measured by the degree to which they can contribute, not to a large mobilization build up, but to the 'M' Day problem. . . ."

The Reserve training program develops in the Reserve Nurse, knowledge, understanding, ideals, and aptitudes to assume, by successive steps, a greater responsibility. At the same time it sharpens the ability to exert more competent military leadership as an officer.

The Air Force Reserve Training Program offers the nurse opportunity for improvement of specialized talents to increase her stature in the field of nursing. Every effort is made during the training assemblies to keep the nurse informed of new developments in aviation, global and space medicine, and in the techniques peculiar to nursing.

The advanced Medical Military Training Program includes the newest medical discoveries that deal with special weapons.

To close, nurses who volunteer for training in the Air Force Reserve apply for the training that helps to keep the wings of the nation's Reserve Airpower healthy and strong for any emergency.



Foot by Foot Through the Wars

By
WESLEY J. MABRITO*

"Their marches might be traced by the blood of their feet!"

MILITARY forces of the United States have made significant advancement in medical treatment and the development of footgear since those immortal words, ascribed to George Washington, were penned describing the plight of hungry and poorly-clad American soldiers at Valley Forge during the severe winter of 1777-78.

But today, as then, marching men continue to be plagued by foot problems—troubles brought about by factors other than a shortage of shoes, boots, and clothing.

The struggle for protection of the American fighting man's feet has gone on for years. Even the late Korean conflict proved there is room for improvement in perfecting shoes and boots that will meet the individual needs of soldiers operating in extreme climes.

Frostbite has been a major medical problem in military campaigns throughout recorded history.[1] Korea was no different from the rest, despite modern combat footwear that included insulated vapor-barrier rubber boots and woolen socks. Temperatures ranging down to 30 degrees below zero F. caused considerable damage to feet that had become wet from perspiration or snow.

Before that, more than 90,000 cases of cold injury were reported in World War II. Neurovascular disorders in the feet were common in camps for prisoners of war in Japan and elsewhere during that great war.[2] Four decades ago trenchfoot, the predominant form of cold injury, was a high casualty producer in World War I.

A scarcity of shoes and proper clothing created much of the discomfort and illness in earlier wars. In the Spanish-American war, Americans in the vicinity of San Juan Hill had been "suddenly transported to a tropical climate, with clothing of a character in itself to madden a man into illness."[3]

And in the American Civil War, General Robert E. Lee's army, when defeated by Grant, was described as being reduced to rags and half-rations, with hundreds of men without shoes and blankets.

Washington wrote Congress about the condition of his men at Valley Forge during the American Revolutionary War: "We have . . . no less than 2,898 men now in camp unfit for duty, because they are barefoot and otherwise naked."[4] Lafayette, who had joined Washington's staff, reported of the soldiers that "their feet and legs froze until they grew black, and it was often necessary to amputate them."[5]

Larrey's account of cold injuries, as observed while serving as Surgeon General of Napoleon's armies during retreat from Moscow, is the first modern writing on the subject of frostbite. In the Crimean War, cold, muddy trenches were thought to be the cause of painful feet.[1]

The importance of a soldier's feet is even referred to far beyond those times. Vegetius, who lived during the reign of Valentine II (375-392 A.D.), published a treatise on military science describing physical characteristics of the young recruit in which he stated that the recruit should, among other things, "have thighs, calves and feet not distended by superfluous flesh but hard with accumulated muscle."[6]

GI foot powder now is recommended for prevention of foot chafing on marches instead of "grease or soap" suggested for such relief in Alfred A. Woodhull's 1907 edition of *Notes on Military Hygiene*, which further cautioned that the soap should not be "yellow issue-soap."[7] Common methods of preventing sore feet in field armies in 1904 included placing flour, finely-powdered chalk, oxide

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of zinc, or a mixture of alum and salicylic acid in boots, and greasing or soaping the socks.[8]

Elimination of leggings such as those worn in World War I has been a great mitigation to soldiers who might otherwise have had foot troubles develop from hindrance to circulation.

In 1920, a few years after World War I and its eruption of trench foot cases, the book *Medical Service in Modern War* devoted a special paragraph to trench foot, in which "preventing constriction of circulation from tight leggings" was stressed.[9] The medical term "trench foot" was popularized during World War I because of its prevalence, but trench foot was "originally described by Larrey, Napoleon's surgeon, in 1812 in the third volume of his 'Memoires' of military medicine."[10]

Even today, the Army's *Technical Manual 8-230* warns, in regard to prevention of trench foot, that stockings should be large enough so as not to bind the feet. The importance of this measure might be exemplified in the Eskimo's care in protecting his feet. He has to dress rapidly because of climatic conditions, but he will spend five to ten minutes in placing the fur wraps on his feet, for he knows that a slight crease in the wrap will hinder circulation of the foot and frostbite will be the result if he is out in the cold weather for any length of time.[11]

Examination frequently reveals the shoes to be at fault in foot complaints because the shank, having given way, allows the arch of the shoe to sag.[12] But there are, of course, many other reasons.

Corns, callouses, blisters, ingrown toenails, disorders of the arch, foot strains caused by activities ranging from marching to parachute jumping, and dermatologic afflictions of the feet are among other problems confronting military medicine today when, as in many years past, cleanliness, daily inspection, and change of socks continue to be regarded as main safeguards in the foot-health program.

To provide specialized care for these afflictions, the Navy has established a podiatry section of the Medical Service Corps,[13] in which the first commission as a podiatrist was awarded June 2, 1954 to a former Hospital Corpsman Third Class.[14] The first chiropodist to be commissioned in the Medical Service Corps of the Army, a former Medical Technician, assumed his podiatric duties in the Orthopedic Service at Walter Reed Army Hospital, Washington, D.C. in February, 1957.[15]

A study of 4,816 dispensary visits by Navy male personnel during a warm and humid 30-day period prior to 1943 revealed that 17.6 per cent were for complaints referable to the feet.[16] Among Navy female personnel, another study revealed that 52.3 per cent of 2,685 dispensary visits involved the feet,[17] and of 1,647 female recruits (Waves) who had passed the physical examination required for enrollment, only 246 or fifteen per cent were found to have normal feet.[13]

Rubin Friedman, M.D., clinical professor of dermatology, Temple University School of Medicine, has been quoted as stating that "disorders of the feet occur in eighty per cent of women and in sixty per cent of men. . . . Once he is engaged in active practice, the chiropodist sees more patients suffering from one form or another of diseases of the foot, than does any practitioner of medicine."[13]

It can be seen clearly that medical treatment has come a long way since the medieval days when the general practice of surgery among the people of France, England, and Germany was in the hands of barbers and bath keepers.[6]

The military importance of healthy feet always has been recognized. In 1858, Charles S. Tripler, M.D., in the *Manual of the Medical Officer of the Army of the United States, Part I,* wrote of splay feet in a recruit as follows: "Large, illshaped, flat feet, with scarcely a trace of the tarsal arch, may exist without disqualifying a man for the military service. It seems to be almost the normal foot of many of the Continental nations, i.e., among their laboring population. Some inconvenience is apt to be experienced among these men for a while after enlistment . . . this, however, soon disappears, and the men

are capable of becoming very good soldiers."[18] The manual cautioned, though, against accepting a man with an arch "so far effaced that the tuberosity of the scaphoid bone touches the ground and the line of station runs along the whole internal border of this organ."

There were other foot problems in those days! In a paragraph titled "Stinking Feet," that same manual states: "It is very rare to meet with men whose natural secretions are so offensive as to be disgusting to their comrades. Offensive secretions from the feet, due, as they are in most instances, to neglect of personal cleanliness, may be remedied. But, sometimes a man is so unfortunate as to emit the most offensive odor from his feet in spite of every attention to personal neatness. Such men must be rejected; their presence in a barrack room would lead to the most injurious discontent."[18]

In an introduction to the manual, the Secretary of War specified that, to aid in inspections, "recruits will be washed before they are presented for inspection, that the concealment of defects may be thus prevented."

In 1889, Major Alfred Woodhull's *Notes on Military Hygiene, For Officers of the Line,* presented, under a chapter on "Selection of Soldiers," such instructions as: "For bunions, large or recently inflamed, reject. A tightly fitting shoe will at once disqualify with them. Corns on the sole are mischievous and when under the base of the great toe condemn."[19]

One of the most concentrated studies on shoes ever made in this country was started in 1908 when (reported by Col. E. E. Hume in his book, *Victories of Army Medicine*) "our War Department appointed a board of officers to study causes and cure of diseases of the foot. The Army Shoe Board . . . worked for four years including 'the critical study of the foot of some two thousand soldiers, the fitting of many thousands of pairs of shoes, and many months of directing inquiry into the causes affecting the shoeing of the United States soldier.'"[20]

The work of that board, which sometimes has been referred to as the Munson board, was published by Brig. Gen. Edward L. Munson, M.C. (then lieutenant colonel) in a famous 1917 monograph, "The Soldier's Foot and the Military Shoe," a handbook for officers and noncommissioned officers. It was Munson who described the last for the shoe of the soldier that came to be known as the "Munson last."[20]

In 1910, the *Report of the Surgeon-General, United States Army* carried an interesting notation about feet under "Sanitation in the Philippine Islands," as follows: "The subject of foot covering for Moro scouts is also a matter at present being experimented upon. The surgeon, Camp Vicars, remarks: '. . . I have never seen any, except the Moro scouts, with absolutely no foot covering. . . . I earnestly suggest a suitable foot covering for Moro troops.' "[21]

Field Sanitation, a Manual for Noncommissioned Officers, 1914 edition, emphasized the importance of proper foot care with statistics from the Franco-Prussian War. In the early part of that war, "the German army during a given period lost from killed and wounded, 60,000 men, and during the same period 30,000 men were incapacitated for duty by injuries to their feet."[22]

Russia has made the study of frostbite a prime subject for many years. John F. Fulton, M.D., Yale University, in a 1953 reviewer's note to the translation of Russian Scientist Dr. T. J. Ariev's "Monograph on Frostbite," remarked that ". . . Soviet military physicians, who have no doubt had a larger experience in dealing with frostbite than any other military medical officers, are in a position to give wise counsel."[23]

Iser Steiman, M.D., of Vancouver, B.C., who translated the Russian manuscript written by Dr. Ariev in 1940 and which was made available to the Canadian Defense Research Board in 1955, wrote of frostbite in a preface:

"It is difficult to find a valid explanation for the lack of interest in this problem during the aftermath of the first great war. The military medical statistics of 1914-1918 show an impressive incidence of casualties from frostbite and trench foot among troops who

saw service in the Flanders mud and in the damp trenches. In spite of these facts, there was little of importance published in the English and American medical press on this problem during the peaceful interval between the two great wars."[24]

Mechanized warfare does not mean that troop leaders can relax emphasis on foot care. The Korean conflict, in which a lack of adequate roads and airfields forced additional footwork on the infantryman, brought about an increased study of frostbite and trench foot. Casualties resulting from frostbite show a need for cold-weather hygiene and general over-all training in foot care.[11]

The fact that soldiers cannot depend wholly on mechanized vehicles for transportation makes the feet doubly important. A perfect example of what can happen to a motorized unit is related in the article, "March of an Armored Division During the Muddy Season," by Dr. F. M. von Senger und Etterlin, which appeared in the German magazine *Wehrkunde* and was translated in the *Military Review*. In speaking of a German division in World War II, he wrote:

"During withdrawal operations of succeeding weeks, almost all the vehicles that were still with the division but which were idle either because of minor damage or because they could not be pulled out of the mud had to be destroyed. In March, the division with a fighting strength of about 4,000 men made the return march from Ingulets to Romania without a single vehicle."[25]

The concept of a pushbutton war does not obliterate the need for foot soldiers and foot care. Keeping the fighting man's feet healthy and well equipped will remain a primary concern for the armed services. The individual, however, in addition to providing personal hygiene must take care to prevent accidents to his feet. Lacerations, for instance, have been incurred by soldiers when accidentally stepping or jumping on razor-edge tin cans that serve as ash trays inadvertently placed on the floor alongside a bed in a barracks. These preventable injuries, ordinarily requiring surgical repair, are unique to the military services.[26]

Marshal Niel once remarked that shoes for his infantry were of equal importance with mounts for his cavalry. The Duke of Wellington gave his opinion of the three most essential parts of a soldier's equipment, viz.: a pair of good shoes, a second pair of good shoes, and a pair of half soles.[20]

Frederick the Great had this to say about military might: "An army, like a serpent, travels on its belly." The Prussian strategist conceivably might have added: "And fights on its feet!"

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TALKING IT OVER

Colonel Frank D. Gray, Jr., of New Haven, Conn. (right), Division Surgeon of the 43rd Infantry Division, Connecticut National Guard, is shown discussing the medical and sanitary problems of a bivouac situation. At the left is Major George Bonner of Guilford, Conn., Commanding Officer of the 43rd 118th Medical Battalion. In the center is Lt. Colonel Orville Hankins of Simsbury, Conn., the Division Dental Surgeon.

43rd Signal Co. R.I.N.G.

Colonel Gray, an associate professor of medicine at Yale University and a member of the Association of Military Surgeons of the United States, served with approximately 7,000 troops of the 43rd Division at the annual summer camp from June 21 to July 4 at Camp Drum, New York. Major Bonner is a New Haven (Conn.) obstetrician and gynecologist, and Lt. Colonel Hankins a West Hartford (Conn.) dentist.

Prevention and Control of Staphylococcus Infections in Hospitals*

By
EDWIN L. CROSBY, M.D.
Director, American Hospital Association

KNOWLEDGE OF THE CURRENT SITUATION

IT IS CLEAR that throughout the world, in spite of the enormous success of antibiotics (and, as will be mentioned below, to some extent because of this success) there remains an important problem of infections, a problem of special significance for hospitals. This report is concerned with such infections, particularly those caused by the coagulase-producing strains of staphylococcus aureus hemolyticus. The most obvious examples are impetigo and more severe infections in children, puerperal mastitis in recently delivered women, burn and postoperative wound infections, and pneumonia in debilitated patients. The staphylococcus may also be responsible for osteomyelitis, meningitis, septicemias, empyemas, boils and abscesses, otitis media, paronychiae, etc.

Disease-producing staphylococci frequently implant in the nasopharynx without overt disease, thus producing carriers. Indeed,, the staphylococcus carrier-rate is a good index of the level of contamination of the environment.

Many hospitals have a serious problem with staphylococcus infections, and all hospitals have a potential problem. Information is inadequate as to the incidence of staphylococcus infections which are acquired in hospitals, but there is evidence that the number of such infections is increasing.

There appear to be innumerable strains of staphylococcus capable of producing infections. Many of these staphylococci are susceptible to antibiotics. Some are not. Infections with antibiotic-resistant staphylococci constitute the main difficulty. Hospitals are clearly the reservoir of most antibiotic-resistant strains. Strains from the community at large are predominantly sensitive to antibiotics. The strains carried by patients on admission are less frequently resistant than strains which are acquired in hospitals. Patients who acquire these infections in the hospital are potential spreaders of resistant strains to the community after discharge. One of the major factors in the current situation is the widespread use of antibiotics which eliminates susceptible strains of staphylococcus and leaves uncontrolled the resistant strains.†

Certain factors frequently found in hospitalization appear to make patients more likely to acquire such staphylococcus infections: a) routine indiscriminate use of antibiotics, especially for "prophylaxis"; b) long hospital stay; c) contact, direct and indirect, with infected hospital patients, staff members or personnel; d) crowding and inadequacy of facilities; e) prolonged operative procedures; f) prolonged use of continuous parenteral therapy through venipunctures or indwelling plastic tubing.

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* This bulletin was prepared by the Council on Professional Practice's Committee on Infections Within Hospitals consisting of: Dean A. Clark, M.D., chairman; William A. Altemeier, M.D.; C. P. Cardwell Jr.,; James P. Dixon Jr., M.D.; Maxwell Finland, M.D.; Horace L. Hodes, M.D.; Martha Johnson, R.N.; and Alexander D. Langmuir, M.D., in consultation with Kenneth B. Babcock, M.D., of the Joint Commission on Accreditation of Hospitals; William H. Stewart, M.D. of the Public Health Service; and others.

† It is not known whether resistant strains of this organism actually acquire resistance after exposure to the antibiotics, or are resistant to begin with and are simply unmasked by the suppression of susceptible strains—although the latter is thought to be the case. From a practical point of view it does not matter which theory is correct.

Certain factors in the host (patient) appear to increase susceptibility to infection: a) treatment with adrenocortical steroids; b) physical debility; c) chronic disease; d) prematurity; e) diabetes; f) bed sores; g) open wounds or breaks in the skin; h) chronic pulmonary disease.

Danger of infection seems to be especially great from direct exposure to people infected with the staphylococcus, although exposure to the same organisms in or on contaminated equipment, supplies, dressings, air, dust, wall or floor surfaces, linens, etc., may be equally as important. The physician, nurse or other attendant with a boil, paronychia, abscess, or nasopharyngeal infection with a virulent strain is particularly hazardous.

Recommendations

All hospitals should establish Committees on Infections, to devote particular attention to infections which are acquired in hospitals so they may be reduced to the lowest possible minimum.*

A. It is suggested that the Committee on Infections include, where possible, a bacteriologist, a pediatrician, a surgeon, an internist, a nurse, and a hospital administrator. The local health officer should be urged to serve as a consultant to the committee. The committee should report periodically to the executive committee of the medical staff.

B. The functions of the Committee on Infections should include at least the following:

1. To establish a system of reporting infections among patients and personnel, such a system being essential to a proper understanding of infections which are acquired in hospitals. The committee should have access to all reports of infections anywhere in the hospital.
2. To keep records of infections as a basis for the study of their sources and for recommendations regarding remedial measures.
3. To distinguish to the best of its ability between infections acquired in the hospital and those acquired outside.
4. To review the hospital's bacteriological services to make sure that such services are of high quality and are accessible either in the hospital itself or in an outside laboratory. Bacteriophage typing, if not available in the hospital, may be sought, as needed, through official local and state health agencies.
5. To review aseptic techniques employed in operating rooms, delivery rooms, nurseries, and in the treatment of all patients with infections and, if indicated, to recommend methods to improve these techniques and their enforcement.
6. To make vigorous efforts to reduce to the minimum consistent with adequate patient care:
   a) Use of antibiotics, especially as "prophylaxis" in clean, elective surgery
   b) Treatment with adrenocortical steroids
7. To undertake an educational program to convince medical staff and hospital employees of the importance of reporting to responsible authorities when they have skin infections, boils, acute upper respiratory infections, and the like.
8. To establish techniques for discovering infections which do not become manifest until after discharge from the hospital, it being known that such infections are often overlooked because they may not be apparent until several weeks after the patient has left the hospital. Two approaches to discovering such infections are suggested:
   a) An attempt to trace the source of any infection with which a patient may be admitted. For example, if an infant is admitted with staphylococcal pneumonia or a recently delivered mother with mastitis, the

* The Joint Commission on Accreditation of Hospitals is being asked to consider the establishment of a Committee on Infections as a major factor in the accreditation of a hospital.

hospital where delivery occurred should be determined and informed of the infection so that it can seek possible sources of infection.

b) Periodic telephone polls on a random sample of discharged patients (particularly recently delivered mothers, newborns, and post-operative patients) to ascertain their state of health and, in case of any indication of infection, to follow them up. Such surveys have proved quite simple and quite valuable. A detailed account of the method is given by Ravenholt and others in the October 1956 issue of the *American Journal of Public Health.*

Hospital administration should undertake the following measures to assist in the control of infections:

A. Diligent maintenance of the general cleanliness of *all* areas in the hospital, not simply in those associated with operating rooms, delivery rooms, and nurseries. Other possible sources, such as dust, air pollution (special attention should be given to ventilating and air-conditioning systems and their filters), and floors must also be considered as potentially important factors in the spread of infection. There should be regular inspections of the hospital for general cleanliness.

B. Special studies among staff and personnel to uncover silent carriers of staphylococcus, especially in epidemic situations accompanied by repeated cases traceable to the same organism.

C. Appropriate measures for the treatment of all carriers who persistently show heavy growth of epidemic strains of staphylococcus in nasopharyngeal cultures or who are identified by epidemiological evidence.

D. Transfer of such carriers and personnel with skin infections, boils, acute upper respiratory infections, and the like from locations such as operating rooms, delivery rooms, food-handling positions, and nurseries to other duty stations in the hospital. Usually such transfers have proved to be sufficient to control the problem, but occasionally leave of absence for a persistent carrier has been necessary.

Hospitals should initiate or participate in community programs to control infection through cooperation with other hospitals, local medical societies, local health departments, and other groups.

General Comment

Occasionally, an entire hospital, a whole community, or a large area seems to become subject to an epidemic strain of staphylococcus. Why this occurs is not known. Its occurrence, however, points up the need for more general recognition and study of staphylococcus infections.

Among the agencies from which consultation and assistance concerning infection problems may be sought are the following:

a) The American Hospital Association, the American College of Surgeons, and the American Academy of Pediatrics (especially for newborn infants) which will furnish upon request the names of suitable consultants.

b) Local and state health departments which, in many instances, have experts on their staffs.

c) The Communicable Disease Center of the U. S. Public Health Service, Atlanta, Georgia, whose assistance may be obtained through local and state health departments.

Valuable background information and discussion about the infection problem can be found in:

a) Conference on staphylococcal infections. (Symposium) Journal of the American Medical Association. 166: 1177-1203, March 8, 1958; (Editorial p. 1205)

b) Observations relative to the nature and control of epidemic staphylococcal disease. F. H. Wentworth and others. American Journal of Public Health. 48: 287-98, March 1958.

c) New York (State) Department of Health Guide for the prevention and control of infections in hospitals. Albany; 56p. illust. 1957.

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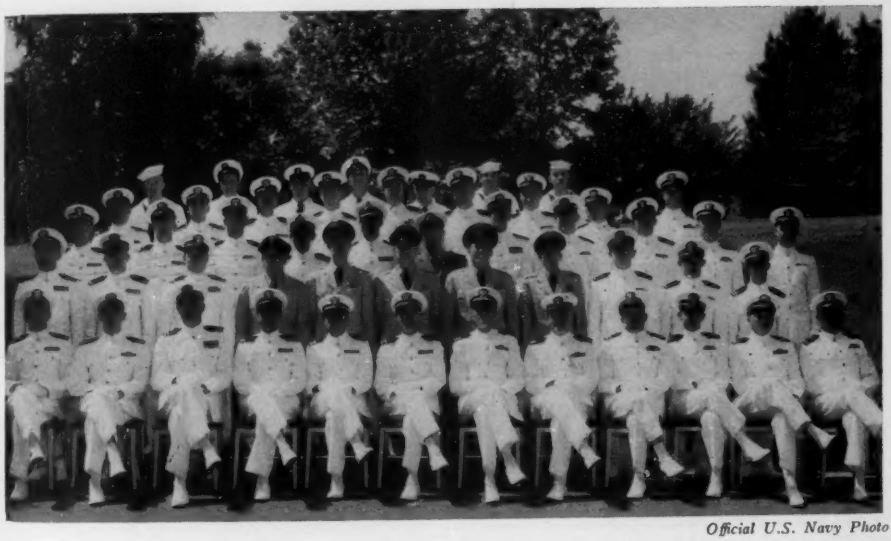
The National Library of Medicine has compiled a lengthy bibliography on staphylococcal infection, which, it is hoped, may be of value to both private and public health physicians who are engaged in combating the increased incidence of antibiotic resistant staphylococcal infection in the home, community and hospital. The bibliography will be sent at no cost on request to:

National Library of Medicine
7th St. and Independence Ave., S.W.
Washington 25, D.C.



Official U.S. Navy Photo

See page 165.

GRADUATES OF THE NINETEENTH OFFICERS' CLASS (WITH STAFF MEMBERS) OF THE U. S. NAVAL SCHOOL OF HOSPITAL ADMINISTRATION

NATIONAL NAVAL MEDICAL CENTER, BETHESDA, MD., JUNE 27

EDITORIALS

Soldier in White*

A TEACHER, physician, soldier, researcher, student always, was George Miller Sternberg, Surgeon General of the Army Medical Corps at the turn of this century.

General Sternberg's military career began at the outbreak of the Civil War. His baptism of fire came at the First Battle of Bull Run where, while taking care of the wounded, he was captured by the Confederates. He escaped and with difficulty made his way back to Washington.

This soldier-doctor found time to do research in the early days of bacteriology. He purchased his own microscope and equipment. In spite of frequent transfers he always set up a laboratory at each new station. He became an authority on yellow fever the transmission of which was proved by the Yellow Fever Commission appointed by Surgeon General Sternberg. He was saluted by Koch as "Father of American Bacteriology."

The author of "Soldier in White," John M. Gibson, gives General Sternberg due credit for his foresight in instructing medical officers in their responsibilities during the Spanish-American War. Untrained medical personnel, stubborness on the part of commanding officers, lack of discipline, politics and sensational newspaper reporting discredited the honest efforts and foresightedness of this great man. Vindication came to him later and placed him in a seat of honor rightly deserved by him.

This is stimulating reading and should prove encouraging to those who feel they are working against heavy odds in their positions.

* *Soldier in White*, by John M. Gibson, librarian of the North Carolina State Board of Health. The Duke University Press, Durham, N.C. 1958. Price $6.75.

Healthier Life in the Big City

SINCE the turn of the century, our large cities have become far healthier places in which to live, thanks to new knowledge in medical science. The change has been so startling and so rapid, that many myths and old wives' tales about the unhealthiness of big city life still persist.

The city's reputation was once well-deserved. Many of the great plagues in human history have been associated with cities. The "Black Death" in 1348 and the "Great Plague" of 1665 in London decimated urban populations. In this country smallpox, diphtheria, typhoid fever and other infectious diseases flourished and took their greatest tolls among city dwellers.

Only when new medical knowledge stimulated public health authorities to safeguard drinking water, milk and food supplies, and to provide mass immunization against a wide range of diseases could such city epidemics be greatly reduced. And more recently, particularly in the last twenty years, new drugs have made it possible to reduce further the epidemic occurrence of some diseases and increase our control over many others.

Urban health levels have therefore rapidly gained on their rural counterparts. Today, for example, we find that New York City's nearly 8,000,000 inhabitants have a mortality rate not much greater than the national average even though they live in proportionally less space than the residents of any other American city. Moreover, they are faced with many new problems indigenous to city life—air pollution, the stress of speed and competition, overcrowding—that add to the incidence of heart disease, disorders of the central nervous system and hypertension.

Yet, special factors must be considered in evaluating these mortality trends. It is important to give due credit in the cities to a

much greater availability of physicians, hospitals and other diagnostic and treatment resources, although advances in transportation have made these resources more accessible to those who live in rural areas.

Rural populations have not yet developed the habit of consulting physicians and using resources as have city dwellers. Undoubtedly there are many reasons why this is true, but certainly two important ones relate to cost and inconvenience. Moreover, voluntary health insurance has grown fastest and is more concentrated in the cities because coverage has been most feasible where breadwinners are members of large employed or organized groups.

Success in further raising rural health levels, then, depends increasingly on a greater realization by the rural resident of his advantage in making wider use of the health services available to him in enrolling in voluntary health insurance.

Meantime, the opportunities for good health—as measured in terms of survival—seem now to be at least as good in the city as in the country, with some statistics even favoring the city, as this issue of PROGRESS IN HEALTH SERVICES shows.—GEORGE BUGBEE, *President, Health Information Foundation.*

Brand Name Drugs*

MORE than 85 per cent of all prescriptions are prefabricated by the pharmaceutical manufacturer. They are not compounded by the retail druggist. Thus the integrity of the manufacturer becomes as important today as the honesty and cleanliness of the retail pharmacist was in 1900. Modern mass production, whatever its disadvantages, does guarantee standardization. One spoonful of a good brand's Elixir XYZ has the same composition and potency as another teaspoonful of the same brand's Elixir (if you use the same teaspoon). This is not true of a fly-by-night manufacturer of shoddy merchandise. But it *is* true of any of the reputable manufacturers who advertise in this and other physician-controlled journals.

Control is the secret of sound manufacture —control of purity, viscosity, solubility, potency, vehicle and particle size. To exercise control at every step of the manufacturing process is expensive. A manufacturer who ignores controls can sell his product cheaper. It may be announced as a "pharmaceutic equivalent"—but it isn't. It isn't an equivalent in potency, solubility, viscosity and so on, even though it looks like an equivalent in color of fluid or shape of tablet.

Fluids separate, tablets decompose, ointments can deteriorate and any medication can become contaminated. The honorable manufacturer determines the "shelf life" of a product and advises the retailer or marks an expiration date. This kind of determination is expensive. By stamping on an expiration date, the manufacturer stands to lose some sales. The third-grade maker avoids that danger. He doesn't determine shelf-life, or he stamps no accurate expiration date on the package. In that way he can sell his product at a bargain. Of course, the aspirin tablet may deteriorate and give forth the odor of acetic acid. Still, it's a bargain. Some bargain!

One of the oddities of the drug trade is that the manufacturer spends a fortune on research, and counts himself lucky to get one usable product out of fifty experiments. He pours down the drain the cost of the other 49 projects. His purpose, to be sure, is not charitable. He expects it to pay off, hoping to make enough profit on the one successful experiment to pay the workers on the 49 wild goose chases. Still, if an unethical manufacturer can borrow the results of that research he can undercut the original maker in price; the second company doesn't have to pick up the research tab. Hence, the by-passing of good brand-named products is a body blow to research. Why should a company spend millions in research to see their final

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*Reprinted by permission from *The Journal of the Medical Society of New Jersey*, Vol. 55, p. 1, January 1958.

products left on the shelf in favor of a cheaper substitute?

Chemically speaking, one antacid tablet may be the same as the other. Still, if you are chewing the tablet, you prefer the one with a smooth taste to one that tastes and sounds like a mixture of grit and chalk. And if you prefer the brand-named, more elegant tablet, your patient is entitled to it too.

A suppository that melts in the container before use—or fails to melt in the body cavity during use—is worthless no matter how cheaply it can be bought. Melting point control requires expensive equipment, and adds to the retail price. A first-class manufacturer, however, will not put out a suppository without a controlled melting point. A third rate manufacturer may do so. And he can sell it cheaper.

So the experienced physician is not defensive about prescribing brand-named products—or giving the retail pharmacist a choice of reliable brand names. He knows that the patient can buy an ersatz product a little cheaper. But precious things don't sell at cut-rate prices.

PLAN NOW TO ATTEND OUR 65th ANNUAL CONVENTION AT THE STATLER HILTON, WASHINGTON, D.C., NOVEMBER 17-19

CREDIT POINTS WILL BE GIVEN TO RESERVE OFFICERS

Around the World

(Ser. II, No. 24)

By

CLAUDIUS F. MAYER, M.D.

XINGU is one of the larger tributaries of the Amazon River. It runs from the Mato Grosso Plateau; along its 1,300 miles a number of primitive tribes are settled. Some of these *Brazilian natives* have been known for their particular stylish hairdresses while others among them have the *custom of removing all the hair* of the body except the eyebrows. Among the Yurunas of the Lower Xingu, even the eyelashes are laid on the fiber of a tukum palm, and then torn out with a single wrench.

Brazil is one of the "melting pots" of the world, including the different viruses. These in Nature's grand laboratory, the jungle, undergo all kinds of change and develop many strains along a genetic line of their own. No wonder that a number of virus-diseases have been discovered in South America. Thus, for instance, *myxomatosis* was first recognized in 1896. During the next twenty years it was a challenge to South American scientists. The virosis was then a disease of the *tapetis in Brazil*, occasionally ravaging the colonies of domestic rabbits. Now, it is a disease of four continents, South and North America, Europe and Australia. In Europe and Australia it was introduced as a biological measure to reduce the rabbit population, but it went out of human control and killed more animals in a short time than any disease known to us now. The Australian observers of the disease were able to study the *evolution of the virus* and the adjustments of host and parasite. It was interesting to see how each epizootic caused a slight attenuation of the virus, and a drop in the death rate of subsequent epizootic attacks. It was also found that the offspring of the surviving rabbits inherited a certain resistance to the disease. Studies of the hereditability of such specific genetic resistance to myxomatosis are being continued in Australia.

Such melting pots, or Nature's foci of breeding of pathogenic viruses may be found in all parts of the world. In April-May of the year 1955, a *virus research expedition* was sent out, for instance, by the *South African Institute for Medical Research* to the Ubombo and Ingwavuma districts in Tongaland, which is north of Natal. The expedition made a systematic survey for antibodies to certain arthropod-borne viruses in the sera of the inhabitants at various parts of this area. It was found that people near Lake Simbu showed a higher incidence of humoral immunity to several viruses than at other parts of South Africa.

Tongaland is south of Moçambique, at the "tropical corridor" on the Indian Ocean water-front of South Africa. About 80,000 persons of the Tonga tribe, a branch of the Zulu nation, are living there, about 3,000 sq. miles, a little less than 25 persons to a sq. mile. There is no industrial development, and the population derives its livelihood from agriculture and animal husbandry. The Virus Research Expedition, mentioned above, found that *17 virus strains of six different types* cause disease of human beings and domestic animals. Most of the viruses are growing up and carried by certain mosquitoes. The commonest of the carriers was the *Aedes circumluteolus*, which alone is the vector of about 15 virus strains. It bites man, ox, goat, and dog. There is also ample evidence that rodents are concerned in natural transmission cycles of arthropod borne diseases. No evidence of a carrier state for viroses was found in the monkeys and small rodents of this area. On the other hand, birds gave evidence of viral antibodies in their blood; yet these birds are not exposed to the bite of Aedes circumluteolus. The *culex* species are probably also involved in the virus cycle. The expedition was able to isolate the *Wesselsbron virus* from a sick man, and to prove that it is transmitted by the bite of the men-

tioned mosquito. The virosis runs with headache, fever, photophobia and some prostration.

The Rockefeller Foundation spends a lot of money on establishing cooperative *field laboratories of virus research in* India, South Africa, Trinidad, Brazil and California. Last year, when in Mysore a new disease was observed in the *Kyasanur Forest*, afflicting man and monkeys, the virus team which was sent out for study established that this new disease was not a yellow-fever epidemic, but an entirely new virus disease. Vaccine against the disease was prepared in the United States, and given to the Indian Government.

This virus is carried by Arthropoda, and is very similar to that of the Russian Spring-Summer encephalitis, and the Omsk type of the epidemic hemorrhagic fever. This similarity is also represented by the relative immunity of people who passed through one disease; they also become immune to the diseases caused by the other related viruses.

All this virus research and vaccine manufacture, of course, is also *plain monkey business*, which involves the East and the West. About this the Editor of the British Medical Journal tells us many interesting facts. Monkeys are very much needed for the *cultivation of certain viruses* and for the production of such vaccines as the one against poliomyelitis. About 8 monkeys are killed in the production of enough vaccine to immunize 2,500 children. There are a lot of children in the world, and armies of monkeys are being used to keep up the immunization programs of the civilized countries. The pharmaceutical houses and vaccine producers use mostly the Rhesus monkeys which come from India mainly, and also from East Pakistan. The Cynamolgus monkey is less suitable for virological research. In India, monkeys are just about as numerous as people, perhaps 400 million, and many are living near human habitation, damaging the crops and getting infected with human tuberculosis. The jungle dwellers have other types of diseases, such as dysentery, and various viroses. In some parts of India, they are among the sacred animals, and are protected.

Professional *trappers of monkeys*, says the Editor of the British Medical Journal, spend much time, energy and money to catch these animals and to keep them well and alive. Recently, the monkeys are travelling by freight airplanes, 800 to 1,600 monkeys to a plane load, with a couple of attendants. The planes are heated, ventilated and pressurized. The monkeys are fed and cleaned during the journey, and receive very humane treatment according to the 1955 recommendations of the Medical Research Council of Great Britain. The suppliers of monkeys must have a very *extensive financial backing*, and a very elaborate organization to assure continuous supply. It is expected that such an organization will be better developed in East Pakistan, a Moslem country where monkeys do not enjoy religious protection. The Cynamolgus monkey business is well organized, but it works in Indonesia and in the Philippines where—to the regret of the British—they are outside the British economic sterling area. Africa does not have at present any large scale organization for monkey business.

The business aspect and the *fight between the sterling pound and the dollar* is evident in other fields of virus research, too. Let us take, for instance, the treatment of multiple sclerosis, the disease which, according to a June circular of our National Neurological Research Foundation, numbers about 250,000 or more victims in the United States alone. Well! The Russian *Shubladze*, with the collaboration of her colleagues, is claiming that they have been successful in isolating the *virus of multiple sclerosis*. The virus was cultivated by them, and, for therapeutic purposes, they also produced a vaccine which is very similar to an ordinary vaccine against rabies. Our own virologists also found that the Russian virus of multiple sclerosis is hardly distinguishable from rabies virus. Now, the great problem is whether this *new Russian vaccine* should be used for treatment. Undoubtedly, dangers are present in the repeated injection of the vaccine. In England, certain doctors demanded that the Russian vaccine be permitted a free entry there. Public health authorities seem to be reluctant to admit a vaccine which costs at least 20 pounds, and for which

the Russians will accept—not the sterling pound but only the American dollar.

At a recent *Symposium on Ageing,* psychologists and sociologists of Great Britain found that research on ageing is still fragmentary and uncoordinated. Sociology, social medicine, and economics have not made much contribution to the problem as yet. People are not prepared and/or educated for ageing to a sufficient degree, especially in Europe. Great Britain still lacks an Institute of Gerontology. We do not have norms for the deterioration of sensory organs with age, neither do we fully understand the effects of such deterioration upon the general psychological and occupational adjustment of the elderly employees. We are talking of increasing rigidity and increasing loss of flexibility in the aged, but we do not know anything about the psychological process which is the cause of it. As far as the *intellectual abilities of the aged* are concerned, statements on the decline of high-grade intellectual output with the age are chiefly based upon psychological tests which are not wholly reliable nor suitable for judging the intellectual activities of the aged.

Recent *statistics of industrial accidents,* which were published *in France,* indicate that the highest hourly frequency of such accidents is at 11 A.M. Subsequent study and research showed that this strange phenomenon is due to an improper system of nutrition. These industrial workers, who have been kept under very careful observations, showed evident lack of energy toward the 11th hour of the day because they were in the habit of eating very little for breakfast. The *neglect of the breakfast hour* seems to be a common vice of all Latin people who prefer to start the day with practically nothing in their stomachs, then fill themselves too much at noon (which makes them slow in the afternoon work), and again will eat a lot before going to bed (which again leaves them often sleepless). It is thought that these nations should be reeducated to the Anglo-Saxon system of meals.

The present 1958 *World Exposition at Bruxelles* opened the door for many visitors to Belgium. As usual, many of the guests of this small "capitalistic" country arrived from behind the Iron Curtain, and they looked with envy and critical eyes upon the work conditions, institutions, living standards, etc., of their host. One of the Communist newspaper reporters from Hungary found that a great deal of the *Belgian workman's earnings must be spent on medical expenses.* The doctor charges 100-130 francs for a visit (the price of two pounds of meat), and the Social Insurance Treasury will reimburse only about 40 francs to the worker. The fee of a specialist is 200 francs (60 francs reimbursed). A Caesarian section delivery may cost the worker 7,500 francs, in addition to the money which the Social Insurance will pay to the hospital. People are admitted to hospitals only after the deposit of a large sum of money.

The situation of the physician is yet not an enviable one in Belgium as René Dumont, a well-known surgeon at Bruxelles, explained to the Communist reporter. About 75% of his income is taken by the Tax Office as the surgeon told. Though there are many ethical physicians, there are also those whose lives are ruined by the inevitable competition. In Belgium, only 5%-10% of the doctors are in paid positions. The rest must pursue their private practice, and must chase the francs. One needs many francs to maintain his large and imposing office (residence) for the sake of a good impression on the patients. The *Belgian practitioner* has no holiday, no vacation since he is afraid that, if he is not available at all times for the patient, the latter will discard him. Many of the doctors have been working gratis for many years at installations of the Social Insurance, in the hope that a paid position might become vacant. Fee-splitting is also a common practice.

Deliberate protraction of a patient's recovery, and needless visits to the patient by the doctor also occur, as the Belgian surgeon has said. Indeed, it needs a strong character to remain an honest *physician in this struggle for life,* says the Communist reporter.

In *Hungary,* many new positions are vacant in the *Central Research Institute of Physics.* This Institute now will have the first *atomic reactor.* The work on the con-

struction of the Institute (beyond the Normafa, at the mountain called Csillérbérc) started last summer. It was under the direction of Soviet engineers. The technological equipment also came from Soviet Russia. The reactor is of the medium type, and it will serve chiefly for the production of radioactive isotopes, using the native uranium ore. The Institute opened this August.

Soviet Asia is a very large area. It includes the Urals Region, Eastern and Western Siberia, the Soviet Far East, and Central Asia. The central Asian portion, which includes Kazakhstan, Turkmenistan, Uzbekistan, Tadzhikistan and Kirgizia, is about 1½ million sq. miles, having a total population of almost 21 million of which 13 million are indigenous. The rest of Soviet Asia has about 8 million sq. miles, with a population of 37 million of whom about 7 million persons are indigenous. In the Central Asian parts, all branches of *food industry showed great advancements* during the past few years. Huge and complex establishments were erected for slaughtering of animals, and processing of meat and by-products. The one in Semipalatinsk can handle 18,000 sheep, 2,000 head of cattle, and 2,000 pigs a day. Uzbekistan is the biggest producer of canned fruits and vegetables in Central Asia. Large factories are at Samarkand, Tashkent, Fergana, Andizhan, and Yangi-Yul'. All Central Asian states have large mechanized bakeries, so-called "bread factories," also sugar refineries (esp. in Kirgizia), wineries, breweries, etc. The lake regions of Central Asia (Caspian, Aral, Balkash, Zaisan, Issyk-Kul lakes) yield about 9% of the fish produced in the Soviet Union.

A recent traveler in *Mongolia* (Ivar Montagu) stated several interesting facts about the *present conditions* in this new "independent" People's Republic (since 1921). It was formerly known as Outer Mongolia, the country neighboring the Soviet Union, and separated from China by the Great Wall. It is 600,000 sq. miles in extent, with a population of about one million Khalkhas and Oirats. Yet, even outside of this area, there are Mongolians; thus, Inner Mongolia, which is an autonomous region of China, has also a million Mongolians, which represents one sixth of its population. Outer Mongolia is a high plateau, covered at the north by the "taiga" jungle and, at the south, widening into a grassland plain which gradually changes into the semi-steppe of the Gobi desert.

The climate of Mongolia varies between 108°F in the summer and −80°F in winter. But the weather is also very variable within a 24-hour period, including snow storms and torrential rains in a day in the fall. The land is scattered with several lakes and rivers. In such natural surroundings, the Mongolian economy is chiefly *livestock herding*. There are 24 million animals, and most herding families own at least 200 of them. The livestock includes horses, camels, cow (the yak), goat and sheep, and it sometimes serves also as a currency: one cow or one horse being equal to 1½ camel, or to 5 sheep or goats, and is called the "bot."

The *Mongolian economy* is further divided into: (a) independent herdsmen ("arat"), (b) production associations, and (c) State farms. Of course, many Mongolians are still living in nomadism as a result of this basic economy. Hence, the government has difficulty in building cultural centers with school, club, shop, reading rooms, etc. The production associations try to dig wells, to provide winter shelter for the animals, etc., none of which had been known previously to the Mongolians. Formerly, the Mongolian was taught by his lama monk that to dig the ground would disturb the evil spirits. Hence, people did not plough the land, they did not grow grains or vegetables. Neither did they keep such domestic animals as ducks, hens or pigs which could not follow them in their nomadic travels.

Such conditions are to be radically changed by the new *State farms* which are enormous in size, but only about a dozen in number. The farms grow grain, produce flour, and teach the people to *eat bread, poultry and pigs*. Mongolian industry is also in its baby shoes. There are now factories for making building materials, clothing, craft objects; there are also State factories for food manufacture, distilleries, wool-washing, a serum-

producindg institute for *veterinary purposes,* also coal mines. Mongolia has tremendous coal fields and big mineral resources. Most of the country's import comes from Soviet Russia, a little from other European countries and from China (tea and food).

Around 1930, almost 40% of the population were lama monks. Today, the lamas have almost completely disappeared. Their lamaseries and temples have become museums. Thus, the young people have practically no religious cult, and they are joking with the old traditions. The former lamaseries became partly the *craft cooperatives* (the first country which built its working class from its priesthood), and the lamas turned into craftsmen. The *administrative system of Mongolia* is that of the Soviet. There is one party, but councils are elected at every level. The capital is Ulan Bator, and the country has 23 aimaks, each aimak 40 somons, each somon 20 bags. The center of an aimak is a moderately large town, with 4,000 to 8,000 inhabitants. Each center has a hospital or *several hospitals, schools, clubs and libraries;* local newspapers are published every other day. In the somons there are *medical posts,* most of them with a fully qualified doctor on the staff, each with a feldsher or trained medical assistants. The "bags" usually have a school nurse or a nursing sister.

Moskva and Peiping are connected with Mongolia by airplane. There are two airfields in the country, one in Ulan Bator, the other at Sain-Shand. There is also a flying doctor service. Other means of transportation are the railway, some steamers, while the main inland transportation is by trucks or motor vehicles. (One of the modern forbidden sports is to hunt antelopes from jeeps). The main goods are still transported by camels. Most of the people are still wearing the characteristic garment which is the "del," a very comfortable clothing with long sleeves. Only the new factory workers, nursing assistants, and doctors are now wearing European clothes. Another characteristic of Mongolia is the "yurt," a very filthy and patched up tent, perhaps 16 to 20 ft. across. It is the ancient form of prefabricated house. In the towns, people are now provided with radios and electric lighting.

Mongolians eat milk products in summer, and meat in winter. They are also beginning to eat bread, pastries, and chocolate imported from Russia. Their famous alcoholic drink is the fermented kumis. Many a yurt has quite a few drunken herdsmen in it. *Science is also new in Mongolia.* It began to develop after the old fashioned way of writing with Uigur characters was abandoned and a new Cyrillic alphabet was introduced in 1940. *The National Choibalsan University was established 1942.* This year, 1,500 students graduated from it. The university has 160 Mongolian teachers, and comprises two colleges, two departments and a research class.

Mongolia now has all kinds of *maternity homes, polyclinics,* tuberculosis and rheumatism treatment centers. The most prevalent disease is rheumatism, perhaps because the herd people must be out in all weathers. The second most prevalent disease is tuberculosis. Plague is endemic at a certain area, and it is also carried by ground squirrels. The Mongolians like horse-racing, and they are devoted to European music. On their "morinhur," a kind of string instrument, they are able to play beautifully Chopin or any of the classics. The "Land of the Blue Sky" has certainly changed for the better.

Recent speeches of Khrushchev indicate that the *wine and vodka have reached flood proportions behind the Iron Curtain.* This is also evident from the many cartoons and news articles reaching us from all countries of the Soviet block. The alcohol problem is most advanced in *Poland and Czechoslovakia.* A Warszawa radio announced that the per capita consumption of vodka reached three liters per year. The situation is not better in other satellite countries. Of course, the Communists reject the western theory of the medical circles that drinking is a result of frustration, escape from worry, etc., though they may admit that a bottle of rum is a good remedy for boredom. In spite of their hatred against everything American, Communist writers now agree that "the most imperialistic Coca-Cola is preferable to the ideologically purest domestic vodka." . . . *Multa paucis!*

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ASSOCIATION NOTES

Timely items of general interest are accepted for these columns. Deadline is 3rd of month preceding month of issue.

Department of Defense

Ass't Secretary (Health & Medical)—Hon. Frank B. Berry, M.D.
Deputy Ass't Sec'y—Hon. Edw. H. Cushing, M. D.

MEDICARE

The provision for furnishing medicines through civilian pharmacies for maternity cases was eliminated from the Medicare program as of July 1. Medicines can no longer be charged to the civilian physician by the pharmicist and included in the bill to the government. Parenteral medicines will still be paid for when administered by the physician.

Incidentally there were 58,000 fewer babies delivered in military hospitals in 1957 than in 1956.

It appears that there will be some sort of restriction placed on families living in areas where government medical facilities are available which will require dependents to use those government facilities. This will be necessary because of less appropriation by Congress for Medicare than requested by the Department of Defense.

OVERSEAS TOURS

The Department of Defense has set a new uniform foreign duty tour for military persons serving in more than 100 overseas areas.

The general pattern of the new tour calls for 36-months of service for persons accompanied by their families in the more favorable overseas areas and 24-month tours for individuals without their families.

The tour in Korea is to be 13 months (without dependents).

Army

Surgeon General—Maj. Gen. Silas B. Hays
Deputy Surg. Gen.—Maj. Gen James P. Cooney

ASSIGNMENTS SGO

Colonel Clarence V. Frey, MSC, has been appointed executive officer of the newly established Personnel and Training Division in the Office of the Surgeon General. This division was established by combining the Personnel and Training Divisions of that office. Colonel Byron L. Steger, MC, is in charge of the division.

Colonel Frey succeeded Colonel Herman A. Walker MSC, who has gone to DeWitt Army Hospital, Fort Belvoir, Va., to be its executive officer.

Colonel Otis W. Snyder, MC, who has been Director of the Department of Military Sciences at the Army Medical Service School at Brooke Army Medical Center, has been assigned to the Office of the Surgeon General where he will be Chief of the Medical Corps Section in the Personnel and Training Division.

Prior to leaving Brooke Army Medical Center for his new assignment he had the pleasure of administering the oath of allegiance to his son, Harvey Welton Snyder II on the acceptance of a second lieutenant's commission in the Army in the Medical Service Corps.

Lt. Colonel John H. Burman, MSC, has been appointed Chief of the Organization and Combat Development Branch of the

Medical Plans and Operations Division in the Office of the Surgeon General.

Major Barbara M. Robertson, AMSC, has been appointed Assistant Chief of the Army Medical Specialist Corps and Chief of the Physical Therapist section of the Corps, effective September 1. She will succeed Lt. Colonel Agnes P. Snyder. Major Robertson has served as a physical therapist with the Army since 1937.

CONTINENTAL ARMY COMMAND SURGEON

Colonel Joseph G. Cooke, MC, who has been Medical Training Center Commander at the Brooke Army Medical Center, has been transferred to Fort Monroe, Virginia, to become Surgeon of the Continental Army Command.

EXECUTIVE OFFICER WRAMC

Colonel Michael L. Sheppeck, MC, has returned to the Walter Reed Army Medical Center with an assignment as Executive Officer of the Center. His prior recent assignment was Surgeon of the Military District of Washington and Medical Director of the Civilian Employees Health Service, Department of Defense.

HOFF MEDAL PRESENTATION

Captain Earl W. Gorby, MC, son of Major General Alvin L. Gorby, former Deputy Commander of Walter Reed Army Medical Center and now Surgeon of the U. S. Army Forces in Europe, was awarded the Hoff Medal recently at graduation ceremonies of the fifth Military Medicine and Allied Sciences Course at the Walter Reed Army Institute of Research, Walter Reed Army Medical Center.

The Hoff Medal was established in 1897 by Colonel John Van Rensselaer Hoff in memory of his father, Colonel Alexander H. Hoff to the outstanding graduate of the medical course given by the Army.

The nine-month Military Medicine and Allied Sciences Course instructs medical officers, who have completed residency training in a specialty, in the military aspects of medicine. Considerable time is spent on the medical effects of radiation, radioisotopes, nuclear warfare, treatment of mass casualties, chemical and biological warfare agents and certain global epidemiological concepts of particular importance to military professional personnel.

FIRST FOOD SERVICE PRACTICUM AT WALTER REED

Five college home economics majors arrived at Walter Reed Army Hospital July 7 to take a four-week food service "practicum," conducted for the first time by the Army Medical Specialists Corps.

The five students, all of whom just completed their junior year, spent the training period working in the various branches of the hospital's Food Service Division. They studied administrative procedures of food service, menu planning, preparation and service of food, and other aspects of the dietary service.

Similar courses were held at Letterman Army Hospital at San Francisco, Calif., Valley Forge Army Hospital at Phoenixville, Pa., Fitzsimons Army Hospital at Denver, Colo., Madigan Army Hospital at Takoma, Wash., Brooke Army Hospital at San Antonio, Tex., and William Beaumont Army Hospital at El Paso, Tex.

The Walter Reed students are Linda Cathleen Barclay, Pennsylvania State University; Frances Ann Brabson, University of Alabama; Nancy Ann Eubanks and Dorothy Ann Lucas, both of the University of Mississippi; and Beverly Ann McGinnis, Madison College at Harrisonburg, Va.

OTOLOGICAL SCREENING

In a two-day session at Fort Meade recently more than one thousand senior ROTC candidates underwent otological screening to determine their hearing fitness.

Major James P. Albrite and 12 other military and civilian staff members of the Audiology and Speech Center at Walter Reed Army Medical Center conducted the screening procedures. These included testing by standard Army audiometers, otoscopic examination, taking of medical history, de-

termining military profile, and diagnosing extent of hearing loss if indicated.

More than 100 young men were seen and tested by the Walter Reed team every hour. Ages of the candidates ranged from 21 to 27 years.

Dr. Albrite and his associates hope that detailed statistical results of the examination will be tabulated within the next few months. These will then be correlated with the results of a similar otological screening performed last year, in order to determine the reliability of the mass testing procedures.

Of 1,690 ROTC men tested in 1957, 63 percent were found to have excellent hearing, while a mild hearing loss was displayed by 34 percent. The researchers discovered that the remaining 3 percent showed such extensive hearing loss that medical help—and in some cases hearing aids—was indicated.

Besides searching out actual hearing loss, the Walter Reed personnel also checked closely for ear infections, tinnitus (ringing ears), acoustic trauma, and any history of personal or family hearing loss.

MARTIN ARMY HOSPITAL

Formal dedication ceremonies for the Martin Army Hospital were held at Fort Benning, Georgia, the U. S. Army Infantry Center, on July 1 with Major General James P. Cooney, Deputy Surgeon General of the Army, as guest speaker. Mrs. Martin, wife of the late Major General Joseph I. Martin, for whom the hospital was named, unveiled a portrait of her husband and the dedication plaque which hangs in the lobby of the hospital.

This 500-bed hospital built on a 1,000-bed expansion foundation has nine floors and 360,000 square feet of floor space all of which is air-conditioned. The cost was over $8 million which includes the equipment.

Major General Martin was a Medical Corps Officer of the Army who had served more than 36 years when he retired in 1955. He died at his home in California in April 1957. He entered the Army in 1918 and became interested in field medicine and military medical education. In 1928 he attended The Infantry School's advanced officers course at Fort Benning.

During World War II General Martin became Chief Surgeon of General Mark Clark's Fifth Army in which position he developed many medical practices that have since become standard procedures. He later became Chief Surgeon of the Far East Command under General McArthur. After returning from Japan he became Commandant of the Army Medical Service School at Brooke Army Medical Center, Fort Sam Houston, Texas, where he remained for over six years. He then went to Europe where he became Chief Surgeon of the U. S. Army Forces. This was his last tour of duty before retirement. He returned to the United States in the latter part of 1955 and presided at the 62nd Annual Convention of the Association of Military Surgeons of which he was president.

The Commanding Officer of Martin Army Hospital is Colonel Robert B. Skinner, Medical Corps.

WOMACK ARMY HOSPITAL

Fort Bragg, North Carolina, is to dedicate its new hospital this month. It is named in honor of Private First Class Bryant H. Womack who was awarded the Medal of Honor posthumously for his heroism on March 12, 1952, near Sokso-ri, Korea, when, despite the loss of his right arm and other serious wounds, he continued giving medical aid to comrades until he died on the battlefield.

SKINNER MEDAL WINNER

The 32nd recipient of the Skinner Medal which was awarded at the Army Medical Service School was Captain Clarke T. Harding, Jr., Medical Corps, of Hillside, N.J. The presentation was made to him by the Assistant Commandant, Colonel Raymond E. Duke, at exercises at Brooke Army Medical Center, Fort Sam Houston, Texas, where the School is located. Captain Harding has been assigned to Fitzsimons Army Hospital in Denver.

The Skinner medal was established by Dr.

John O. Skinner, a contract surgeon who served with the Army around 1870, to encourage young physicians to study field procedures early in their careers.

PRESIDENT PHYSICAL THERAPY ASSOCIATION

Lt. Colonel Agnes P. Snyder, Assistant Chief, Army Medical Specialist Corps and Chief of its Physical Therapist Section, was elected president of the American Physical Therapy Association for a three-year term at the recent convention of that organization in Seattle. She had just completed a term as Speaker of the House of Delegates of the association.

LT. COL. AGNES P. SNYDER, AMSC

Colonel Snyder, a native of St. Mary's, West Virginia, entered the Army in 1933. She has held the position of Physical Therapy Director of the Army Physical Therapy Course at the Army Medical Service School, Brooke Army Medical Center, Fort Sam Houston, Texas (1949-1953), a position to which she will return in September.

HONORED

Major General Leonard D. Heaton, Commanding General of the Walter Reed Army Medical Center was awarded the honorary degree of Doctor of Science by Denison University during the 117th commencement exercises of that university at Granville, Ohio recently.

He was a student at the university from 1919 to 1922 and then went to the University of Louisville where he received his medical degree in 1926.

The Denison tribute cited General Heaton as a "loyal alumnus, skillful surgeon, eminent hospital administrator, faithful servant of his nation in war and peace. . . ."

HONORED

Brig. General Clarence P. Canby, Chief of Dental Activities at Walter Reed Army Medical Center, was awarded an honorary membership in the Southern Maryland Dental Society at its recent 20th anniversary celebration.

The presentation was made by Dr. Darwin R. Drewyer, President of the Society, who paid tribute to General Canby's contributions to dentistry and dental research and noted the "splendid cooperation the society has enjoyed with the dental activities at Walter Reed."

CHIEF NURSE HONORED

Colonel Inez Haynes, Chief of the Army Nurse Corps, was presented a handsome bronze plaque in the shape of a shield in recognition of her "distinguished service in the nursing profession" by friends and alumnæ of the Scott and White Memorial Hospital School of Nursing Alumnæ Association of Temple, Texas.

She was graduated in 1931 from the Scott and White Memorial Hospital School of Nursing and was commissioned as second lieutenant in the Army Nurse Corps Reserve in 1932.

RETIRED

Brig. General Paul S. Fancher, Medical Corps, who has been Commanding Officer of Letterman Army Hospital at San Francisco, California has retired from active military service.

General Fancher, a native of Ohio, re-

ceived his academic work at Ohio Wesleyan University, and his medical degree from Ohio State University. He entered the Army on active military service in July 1930. During his military career he specialized in internal medicine.

VETERINARIAN RETIRES

Lt. Colonel Bernard F. Trum, VC, retired from the Army on June 30 after more than twenty years of active service. His most recent assignment was at the Walter Reed Army Institute of Research. He has joined the staff of Harvard University Medical School in Boston.

Colonel Trum, a graduate of Boston College and Cornell University, began his military career in 1935. During World War II he served with the Veterinary Section, Office of the Surgeon, in Europe. For seven years he was attached to the Atomic Energy Commission at Oak Ridge and in Washington as a specialist on the effect of ionizing radiation on animals.

NEW ASSIGNMENT

Colonel Andrew F. Scheele, MC, who has been Executive Officer on the staff of the Fifth Army Surgeon, Colonel George E. Leone, has been assigned to the Headquarters of the Seventh U. S. Army in Germany. He received a Certificate of Achievement at the termination of his duties with the Fifth Army.

TO TAIWAN

Colonel Louis H. Jobe, Jr., who has been Chief of the Professional Services Division, Fifth U. S. Army Surgeon Section, has been assigned to Formosa as Chief of the Medical Section with the U. S. Army element of the Military Assistance Advisory Group in Taiwan. On his departure from the Fifth Army he was cited for meritorious service from October 1956.

Colonel Jobe is a graduate of the University of Mississippi and received his medical degree from Vanderbilt University School of Medicine in 1932. He received an M.H.A. degree from Northwestern University in 1950.

TO PUERTO RICO

Colonel Edwin S. Wallace, Executive Officer at Brooke Army Medical Center has been assigned to Puerto Rico where he will be the Commander of the Rodriguez Army Hospital at Fort Brooke. Prior to his departure he was awarded the Certificate of Achievement by Major General William E. Shambora, the Brooke Army Medical Center Commander.

POLYVALENT INFLUENZA VACCINE

Immunization with a new polyvalent influenza vaccine will be accomplished in the Army in October. The new vaccine will give protection against Asian, Swine, A, A-prime, and B strains of influenza. Vaccination will be offered to dependents and civilian employees of the military services in overseas areas.

INTERNS

There are 178 interns, representing 67 medical schools throughout the United States, serving rotating internships at 10 Army hospitals during the period July 1, 1958-June 30, 1959.

CHINESE SURGEON GENERAL VISITS IN USA

Major General Yang Wen Tah, Surgeon General of the Nationalist Chinese Army, recently visited the United States to attend logistical exercises in the Washington, D.C. area. On his return he visited in Fort Ord, California, where he was a guest of Captain and Mrs. Henry C. Henn stationed at the Fort Ord hospital. They had recently completed a tour of duty in Formosa where they made the acquaintance of the general. The knowledge of Chinese cooking gained there by Mrs. Henn enabled her to prepare a delightful Chinese dinner for him.

HUMIDITY AND DISEASE

Transmission of airborne disease such as the common cold and other respiratory illnesses may be aided by high humidity according to an article in the *Journal of Applied*

Microbiology by Dr. James M. Beebe and Mrs. Gerda W. Pirsch of the Army Chemical Corps Biological Warfare Laboratories, Fort Detrich, Maryland.

High humidity favors longevity of the bacteria even in the presence of sunlight. This may explain why the dry, sunny Southwest appears to be a more healthful climate than some of the humid areas of the United States.

NEW INSIGNIA

The Department of the Army has announced a sweeping change in the traditional insignia and titles of its enlisted pay grades that is specifically aimed at enhancing the prestige of enlisted personnel.

In line with the recent revision of the military pay structure and the new enlisted E-8 and E-9 grades that were passed into law by the 85th Congress, the Army has completely changed the rank and insignia of its non-commissioned officers in Grade E-5 through E-7. Specialist rank and insignia have also been changed. In addition, it has added a new insignia and rank for the super E-9 grade.

For the present, to be appointed to E-9, a soldier must have 18 years active federal service, 16 months in pay grade E-8, be in a regiment, battle group, or their components. An E-8 must have 15 years active federal service, 14 months in E-7, and be in a regiment, battle group, or their components. Both will be promoted on a "best qualified" basis. However, commanders may waive not more than one-half of the time in temporary pay grade.

This new plan, which became effective June 1, offers more competition and no grade jumps. Officers reverting to enlisted status will not be offered pay grades E-8 or E-9. Under present legislation, officers may revert to the highest permanent grade held prior to commissioning. If they have no prior EM status, they will be given pay grades consistent with qualifications and the needs of the Army.

Here is the way the new rank and insignia will work:

	TITLE	*INSIGNIA*
E-9	Sergeant Major	Six Stripes and Star
E-8	First Sergeant	Six Stripes and Diamond
E-8	Master Sergeant	Six Stripes
E-7	Platoon Sergeant or SFC	Five Stripes
E-6	Staff Sergeant	Four Stripes
E-5	Sergeant	Three Stripes
E-9	Specialist Nine	Three Stripes up and Two Down
E-8	Specialist Eight	Three Stripes up and One Down
E-7	Specialist Seven	Three Stripes up
E-6	Specialist Six	Two Stripes up
E-5	Specialist Five	One Stripe up
E-4	Specialist Four	Eagle (no stripes)

There is no change in the corporal or private first class insignia. Significant in the revision is the old "buck sergeant" stripe that was so popular prior to and during World War II.

SHELTER

The Army Quartermaster Corps has developed an inflated air shelter that will protect crews checking out guided missiles from all types of weather.

Resembling a giant marshmallow, the shelter is made of lightweight coated nylon fabric and held rigid by a three-quarter horsepower motorblower. It can be erected in minutes and a single crewman can dismantle the novel house in seconds.

OFFICER CAP

The Department of the Army has taken a significant step forward in its Uniform Program with the recent adoption of a service cap frame with interchangable green, blue, and white covers for optional purchase and wear by officers and warrant officers.

The new interchangeable-type service cap will afford officers considerable convenience while traveling and costs less than two of the caps if they are purchased separately.

Some officers are presently required to own two and in some cases three different uniforms with associated caps. Now, the three interchangeable covers and cap frame can do the job.

Officer and Warrant officer personnel should make sure that each part bears a qual-

ity control certificate number when purchasing a new cap.

Navy

Surgeon General—Rear Adm. Bartholomew W. Hogan
Deputy Surgeon General—Rear Adm. Bruce E. Bradley

Fluoridation at Pearl Harbor

Fluoridation of drinking water at Pearl Harbor began on May 12. Almost 60,000 Navy and Air Force personnel, dependents, and civilian employees in the area will use this water. Of this number 13,000 are children sixteen years of age or younger.

Action to start the fluoridation project in the Pearl Harbor area was initiated by the then District Dental Officer, Rear Admiral C. C. DeFord, DC, U. S. Navy, as soon as the Defense Department endorsed fluoridation of water supplies. Both the American Dental Association and the American Medical Association recommend fluoridation of drinking water as a major means of preventing tooth decay in children.

Graduates of Hospital Administration School

The Nineteenth Officers' Class of the U. S. Naval School of Hospital Administration graduated at the National Naval Medical Center, Bethesda, Maryland on June 27. The graduation address was delivered by Mr. George Bugbee, President of the Health Information Foundation, New York.

The exercises concluded ten months of intensive instructions in hospital administration. The course is designed to satisfy the need for many such officers to assist commanding officers of hospitals in the constantly changing and increasingly complex area of hospital administration.

School officers were: Commander L. J. Elsasser, MSC, USN, the Commanding Officer; Lieutenant Commander E. L. Van Landingham, Jr., MSC, USN, the Executive Officer; and Lieutenant Commander H. E. Hoche, MSC, USN, the Training Officer.

Graduates of the Nineteen Officers' Class were:

Surgeon Commander Asghar N. Ansari, MC, Pakistan Navy.

Lieutenant Comander Arthur N. King, MSC, USN.

Captains: Daniel R. Ansley, USAF (MSC); William W. Barley, USAF (MSC); Benjamin F. Brodow, USAF (MSC); Daniel P. Donahue, USAF (MSC); John J. Dorgan USAF (MSC).

Lieutenants: Lloyd M. Ash, MSC, USN; Edward H. Blackmon, MSC, USN; Joe F. Brannon, MSC, USN; William S. Duffey, MSC, USN; John W. Guinn, MSC, USN; Kenton Hypes, Jr., MCS, USN; Robert C. Jones, (MAD), Royal Canadian Navy; Carl R. May, MSC, USN; Lucien E. Puckett, MSC, USN; Edgar G. Waggoner, MSC, USN; Lloyd A. Watts, MSC, USN; Amnuay Xuto, MC, Royal Thailand Navy.

Lieutenants (jg): Harold J. Boudreau, MSC, USN; Robert G. Devine, MSC, USN; Kenneth F. Floan, MSC, USN; Thurman O. Jordan, MSC, USN; Joseph F. Ksenzak, MSC, USN; John R. Moody, Jr., MSC, USN; Billie C. Roberts, MSC, USN; William A. Ryan, MSC, USN; Donald E. Shuler, MSC, USN; Donald J. Snowden, MSC, USN; John R. Sollman, MSC, USN; Harry F. Ziegler, Jr., MSC, USN.

Air Force

Surgeon General—Maj. Gen. Dan C. Ogle
Deputy Surg. Gen.—Maj. Gen. Olin F. McIlnay

Receives Commendation Medal

Colonel Howard B. Nelson, USAF (MSC), Retired, was recently presented the Air Force Commendation Medal by Brig. General John K. Cullen, USAF (MC), Director of Plans and Hospitalization, Office of the Surgeon General.

Colonel Nelson received the award for meritorious service for duty as Health Supplies Specialist in the Office of Defense Mo-

bilization, Executive Office of the President, from October 1956 to November 1957.

A native of Pocatello, Idaho, he received his degree in Pharmacy from Idaho State University in 1936. He entered the military service in 1937 in what was then the Army Medical Administrative Corps and served in the European and China-Burma-India theaters during World War II. He held many important assignments in the areas of medical supply, procurement, standardization, and planning. At Supreme Headquarters, Allied Powers in Europe, he was Medical Supply Planning Officer.

When the Medical Service of the Department of Air Force was organized, Colonel Nelson was transferred to that Service from the Department of the Army.

Upon his retirement from military service in December 1957, after more than twenty years of active duty, he became affiliated with Smith, Kline, and French Laboratories as Professional Representative for Federal Health Services with office in Washington, D.C.

ASSIGNMENTS

Colonel Larry A. Smith, USAF (MC), was recently assigned as Deputy Director of Medical Staffing and Education in the Office of the Surgeon General. A graduate of the Northwestern University Medical School (1938), Colonel Smith entered military service in 1939. He served in the China-Burma-India Theater during World War II. His specialties are internal and aviation medicine.

Colonel Louis Arnoldi, USAF (MC) has been appointed as Chief of the Medical Liaison and Selection Division, Office of the Surgeon General.

Lt. Colonel Paul W. King, USAF (MSC) has been appointed as Chief of the Hospitals Management Branch, Directorate of Plans and Hospitalization.

Major Vincent W. Herberholt, USAF (MSC) has assumed the position as Chief of the Appointments and Special Programs Branch, Directorate of Medical Staffing and Education.

Colonel Marley C. Clark, USAF (VC) has been assigned as Command Veterinarian, Headquarters, United States Air Forces in Europe, Wiesbaden, Germany.

Colonel Rowland W. Rushmore, USAF (VC), has replaced Colonel Charles H. Snider, USAF (VC), as Deputy for Professional Services, Office of the Assistant for Veterinary Services. Colonel Snider has been assigned to the Walter Reed Army Institute of Research.

SPACE RESEARCHER

Colonel Paul A. Campbell has returned to the School of Aviation Medicine for the third time. He is a pioneer in space research and will be in charge of the Space Medicine Division at the School which is located at Randolph Air Force Base, San Antonio, Texas.

Some of the problems that Colonel Campbell and his staff will be studying are: the effects of weightlessness in space, the provision of oxygen and removal of carbon dioxide in a cabin that will have to protect against the cosmic rays and also provide a livable temperature for human beings. Measures to overcome monotony and a feeling of nostalgia after the initial thrill of departure from Mother Earth. The maintenance of nutrition from the foods that can be carried in a cabin must be studied. The physical as well as the psychological problems are many but they will have to be solved before man can go on a long space journey.

APPOINTMENT ON APA COMMITTEE

Lt. Colonel Robert L. Williams, USAF (MC), was recently appointed to a three-year membership on the American Psychiatric Association Committee for National Defense by Dr. Francis Gerty, President of the Association. Dr. Williams is assigned to the Office of the Surgeon General as Consultant in Neurology and Psychiatry.

NATIONAL ASSOCIATION OF DOCTORS

Domenic A. Vavala, Ph.D., Professor of Altitude Physiology at Incarnate Word College, San Antonio, Texas, has been ap-

pointed to the office of Secretary-Treasurer of The National Association of Doctors in the U. S. and is also a member of the Executive Council. Dr. Vavala is a Captain in the U. S. Air Force, Medical Service Corps, serving as an aviation physiologist at Lackland Air Force Base, Texas.

Public Health Service

Surgeon General—LEROY E. BURNEY, M.D.
Deputy Surg. Gen.—JOHN D. PORTERFIELD, M.D.

APPOINTMENTS—ASSISTANT SURGEON GENERAL

Dr. John C. Cutler has been appointed as Assistant Surgeon General for Program in the Office of the Surgeon General. He has been Assistant Director of the National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Maryland. He succeeds Dr. Arnold B. Kurlander who has been named Deputy Chief of the Bureau of Medical Services.

A native of Cleveland, Ohio, Dr. Cutler was commissioned in the Regular Corps of the Public Health Service in 1942. He worked with the late Dr. John F. Mahoney, who directed the first successful experiments in the use of penicillin in the treatment of syphilis. Since that work he has had a number of important assignments in foreign countries as a venereal disease expert. For his work he was awarded an honorary life membership in the American Social Hygiene Association.

Harry G. Hanson, Director of the Robert A. Taft Sanitary Engineering Center, Cincinnati, Ohio, was recently promoted to the rank of Assistant Surgeon General of the Public Health Service.

Mr. Hanson is a native of Crookston, Minnesota and holds a master's degree from Harvard University.

The Engineering Center at Cincinnati is specially designed for research, technical services and training in water supplies, water pollution control, sewage and industrial waste disposal, radiological health, air pollution, and milk and food sanitation.

M. Allen Pond was promoted to the rank of Assistant Surgeon General, effective June 15. He is assigned to the Office of the Secretary of Health, Education, and Welfare, a position that he has held since 1953.

A native of Connecticut, Mr. Pond is a graduate of Yale University where he received the degree of Master of Public Health. He has held the position as Assistant Professor of Public Health at that University on two separate occasions.

APPOINTMENT NIH

Dr. Paul Q. Peterson has been appointed as Assistant Director of the National Institute of Allergy and Infectious Diseases, at the National Institutes of Health. The Institute Director is Dr. Justin M. Andrews.

Dr. Peterson received his medical degree in 1936 from the University of Illinois College of Medicine and an M.P.H. degree from the University of Michigan School of Public Health in 1946. He has been a commissioned officer in the Public Health Service since 1942.

APPOINTMENT

Dr. William H. Stewart has been appointed to succeed George St. J. Perrott who has retired as Chief of the Division of Public Health Methods in the Public Health Service.

That Division has as its major responsibility the identification and definition of current and future public health problems; measuring these problems against the Nation's available facilities, health personnel and health organization and developing methods for judging the effectiveness of public health programs. A recent responsibility of the Division is the U. S. National Health Survey.

HEART COUNCIL APPOINTEE

Dr. E. Cowles Andrus, of Baltimore, an associate professor of medicine and Chief of the Division of Cardiology at Johns Hopkins University Medical School and a past presi-

dent of the American Heart Association, has been appointed to the National Advisory Heart Council by the Surgeon General of the Public Health Service.

As a member of the National Advisory Heart Council, Dr. Andrus will make recommendations to the Surgeon General on programs of the National Heart Institute, Bethesda, Maryland.

PRESIDENT—PATHOLOGY ACADEMY

Medical Director Chapman H. Binford on duty at the Armed Forces Institute of Pathology as Chief of the Laboratory for Investigation of Leprosy, has been elected as president of the International Academy of Pathology and will serve for 1958-1959. Dr. Binford is a graduate of the Medical College of Virginia (1929).

RETIRED

The following commissioned officers of the Public Health Service have been retired: Joan Lowengard, Senior Assistant Nurse Officer; Evelyn E. Johnson, Nurse Officer; and Frederick W. Harper, Dental Director.

TUBERCULIN SKIN TEST

Three Federal agencies have recommended that State and local authorities consider replacing compulsory X-ray programs with the tuberculin skin test as the initial means of detecting tuberculosis among students and school employees where experience has shown a low incidence of cases. In cases of positive skin tests chest X-rays would be made.

The three Federal agencies involved were the Public Health Service, the Office of Education and the Children's Bureau, all of the Department of Health, Education, and Welfare.

FILM AVAILABLE

For the Nation's Health is a 16 mm., color, sound film, with 15 minute running time, giving the story of the U. S. Public Health Service from its inception in 1798.

The film is for showing to personnel in the health, medical, and allied professions, students, parents, teachers, counselors, civic groups, and the general public. It may be obtained on a loan basis from the Surgeon General, Public Health Service (P), Washington 25, D.C.

Veterans Administration

Chief Medical Director—WILLIAM S. MIDDLETON, M.D.

Deputy Chief Med. Dir.—R. A. WOLFORD, M.D.

STATISTICS ON VETERANS

At the end of April there were 22,734,000 veterans in civil life, of which 2,892,000 were from World War I.

The average daily patient load in VA hospitals was 111,152 and in non-VA hospitals was 3,225. The average daily member load under domiciliary care was 16,032. Outpatient daily load was 189,741.

LEAVES VA FOR AMA

Dr. John C. Nunemaker, Director of the Education Service in the Veterans Administration Department of Medicine and Surgery, left VA on August 1 to become Associate Secretary of the American Medical Association Council on Medical Education and Hospitals in Chicago.

A graduate of the Harvard Medical School, he served four years in the Army during World War II, and then joined the Veterans Administration in 1946. He was assigned to the VA Central Office in 1952 as head of its Research Service and later in that year became Director of Education.

LEAVES VA

Dr. J. Ralston Wells, Manager of the Veterans Administration Hospital at Grand Island, Nebraska, will leave the VA on August 31 and make his home at Stone Island Estates, Enterprise, Florida.

Dr. Wells was recently presented with his forty-year membership certificate and gold life membership card by the Association.

AMYOTROPHIC LATERAL SCLEROSIS

Fifty-six Veterans Administration hospitals and clinics will participate in a National Institutes of Health study of amyotrophic lateral sclerosis and related neurological disorders.

Case histories, blood samples, and saliva samples will be furnished to the National Institute of Neurological Diseases and Blindness which is one of the Institutes of the National Institutes of Health at Bethesda, Maryland.

LUPUS ERYTHEMATOSUS

A blood test for lupus erythematosus has been devised by Dr. C. David Cooper of George Washington University and Drs. Thomas McPherson Brown, William R. Felts, and Ruth H. Wichelhausen of that university and the D.C. Veterans Administration hospital.

The test uses a blue dye called 2-6-dichlorophenolendophenol which is mixed with the patient's blood. The color is said to change if lupus erythematosus is present.

GLAUCOMA

One in 19 men over the age of 50 is faced with possible blindness on account of glaucoma according to a survey by the Veterans Administration's outpatient clinic in Brooklyn. Signs and symptoms of developing glaucoma were present in 140 of 2,600 patients. Routine tonometer readings were made in the survey.

Miscellaneous

MERGER

On July 1 the Office of Defense Mobilization and the Federal Civil Defense Administration were merged, the new name being The Office of Civilian and Defense Mobilization.

SOCIAL SECURITY

Here is what is happening! In the next five years the benefit payments under Social Security will be greater than the amount of money received.

What is the solution? Well, in government circles there is only one solution. That is to increase the take. So look for a greater percentage of outlay on the part of the contributors—the employee and the employer. And every time new benefits are added look for a higher rate to be paid into Social Security.

FELLOWSHIPS

The National Foundation for Infantile Paralysis has set deadline dates of September 1, December 1, and March 1 for applications for post-doctoral fellowships in research and academic medicine or in the clinical fields of rehabilitation, orthopedics and preventive medicine. For further information write to: Division of Professional Education, National Foundation for Infantile Paralysis, 301 East 42nd Street, New York 17, N.Y.

POLIO VACCINE

Oral poliomeylitis vaccine is to be given to approximately two million children in Colombia under the auspices of the World Health Organization.

This oral vaccine is an attenuated live strain of type 1; later types 2 and 3 will be given.—*Scope Weekly*, June 18/58.

MILITARY EXHIBIT

The U. S. Military Academy at West Point has been granted $30,000 for its Museum in Thayer Hall by the Lilly Endowment, Inc., of Indianapolis, Indiana. Military development will be traced by dioramas. One feature is a World War I trench.

AUTOMOBILES

The automobile is a peculiar fertile species which reproduces freely and appears to have no natural enemies sufficiently powerful to hold its growth in check. Furthermore its reproduction has the peculiar feature that the offspring is always 6 inches longer, 3 inches wider, 10 percent more powerful and 20 percent shinier than its parent. It will be interesting indeed to note the breeding habits of the automobile 50 years hence.—GLENN T. SEABORG, *Science Digest*.

HEALTH

Just as a teacher who teaches his subject and not his pupils is a bad teacher, so a doctor who sets out to heal diseases instead of healing people will not be a good doctor. —SIR EDWARD V. APPLETON quoted in *Science Digest.*

MAN TO THE MOON

Dr. Harlow Shapley, scientist, when asked what would be the advantage of sending a man to the moon: "It would reduce by one the number of crackpots on earth."—*Quote.*

STUDENT STATISTICS

Of the nation's 33.5 million elementary and high-school students, 200,000 are physically handicapped in some way; 40,000 are emotionally disturbed, 80,000 are mentally retarded, 6.7 million are "slow learners," and 80,000 are "exceptionally bright."—*Council for Exceptional Children.*

CELL PHYSIOLOGY

How does the living cell "burn" carbohydrates and fats?

Dr. David E. Green of the University of Wisconsin Institute for Enzyme Research in an article, "Biological Oxidation," in the July issue of *Scientific American* reveals how research findings have helped to localize the probable solution to the question in minute intracellular particles—the mitochondria.

RADIATION WARNING SIGN

To warn persons against radiation areas the Picker X-ray Corporation has produced two aluminum signs, CAUTION RADIATION AREA and CAUTION HIGH RADIATION AREA, PERSONNEL MONITORING REQUIRED. Both signs comply with the AEC regulations as to the caution symbol and color. Cost per sign is $2.50; available from Picker X-Ray Corporation, 25 South Broadway, White Plains, New York.

BOOKLET AVAILABLE

A Practical Manual on the Medical and Dental Use of X-rays With Control of Radiation Hazards has been prepared by The American College of Radiology and can be obtained for 25¢ per copy by addressing the College at 21 N. Wacker, Chicago 6, Ill.

OCCUPATIONAL MEDICINE

The residency program in occupational medicine provided by the Department of Occupational Health of the University of Pittsburgh has been granted full approval by the Council on Medical Education and Hospitals of the American Medical Association. This is a three-year residency, two of which are based at the Department's headquarters at the Graduate School of Public Health. A third, or in-plant, year is spent at one of the industrial health facilities approved for participation in the program.

Full approval has been granted to residencies based at two other Universities, Cincinnati and Rochester. Provisional approval has been given for comparable programs at Ohio State and Yale Universities, bringing to five the number of programs in which physicians may prepare themselves for certification in occupational medicine under the American Board of Preventive Medicine.

Requests for additional information and application forms should be addressed to the Secretary, Graduate School of Public Health, University of Pittsburgh, Pittsburgh 13, Pa.

POSTGRADUATE COURSE

The International College of Surgeons will present a postgraduate course in conjunction with the Cook County Graduate School of Medicine, Chicago, October 13-25. Full information may be obtained from the College at 1516 Lake Shore Drive, Chicago 10, Illinois.

HEALTH PRODUCTS SHOW

The New York Health Show, a health education project of the New York City Health Department, will be held in the Coliseum, August 6-23 (except Sundays). More than 80 official and voluntary health agencies will participate. The public is invited.

ULTRASONICS IN MEDICINE MEETING

An interim meeting of The American Institute of Ultrasonics in Medicine will be

held August 23 at the Bellevue-Stratford Hotel in Philadelphia, Pa. The Secretary of the Institute is John H. Aldes, M.D., 4833 Fountain Ave., Los Angeles 29, Calif.

PSYCHOTHERAPY CONGRESS

The IV International Congress of Psychotherapy will be held in Barcelona, Spain, September 1-7. A Section of Psychopharmacology will meet during the Congress. Further information may be obtained by writing: The Secretary, Cátedra de Psiquiatría de la Facultad de Medicina, Casanova 143, Barcelona, Spain.

MEETING

The Society for Clinical and Experimental Hypnosis will present a scientific program at the Morrison Hotel, Chicago, Ill., October 29-31.

The Chairman of the Program Committee is William S. Kroger, M.D., Chicago Medical School. More detailed information can be obtained from the Administrative Secretary, Society for Clinical and Experimental Hypnosis, 750 N. Michigan Ave., Chicago 11, Ill.

UROLOGY AWARD

The American Urological Association offers an annual award of $1,000 (first prize of $500, second prize $300 and third prize $200) for essays on the result of some clinical or laboratory research in Urology.

Competition is limited to urologists who have been graduated not more than ten years, and to hospital interns and residents doing work in Urology.

For full particulars write to the Executive Secretary, 1120 North Charles St., Baltimore, Md.

307TH GENERAL HOSPITAL

The 307th General Hospital which is a 1,000-bed U. S. Army Reserve Unit is now in training at Fort Dix, New Jersey. Commanded by Colonel Gerald D. Dorman, Medical Corps, since it was activated in July 1955, the unit is now at TO&E strength. It has outgrown the space and facilities at the Reserve Training Center, 30 West 44th Street in New York City, and will move to the new headquarters on the St. Johns University campus: the 2nd Lt. Thomas J. MacDonald Reserve Training Center, at Hillside, Jamaica, New York.

Most of the officers, warrant officers and non-commissioned officers have had previous active service in either World War II or Korea and some of them have seen service in both emergencies. The detachment is comprised almost wholly of high school and college graduates.

Members of the 307th believe in close affiliation with military organizational groups in order to keep them fully abreast of activities in military as well as medical affairs. Among the organizations represented is the Association of Military Surgeons. Two members of the unit, Lt. Colonel Henry J. Schmidt and Major Edward A. Barrett, are members of the Executive Council of the New York Chapter of the Association of Military Surgeons.

Among the officer personnel are: Colonel Gerald D. Dorman, the Hospital Commander, who is Medical Director of the New York Life Insurance Company, and a delegate to the American Medical Association; Colonel Frederick L. Liebolt, Chief of Professional Services and Chief of Surgical Service, who is Clinical Professor of Orthopedic Surgery at Cornell University; Colonel Joseph C. Clifford, Chief of the Neuropsychiatric Service, who is Senior Psychiatrist at Pilgrim State Hospital; and Colonel Meyer Kowaloff, Chief of the Dental Service, a member of the New York Dental Society.

Those holding the rank of lieutenant colonel are: Dr. John M. Brady, Acting Medical Director, Field Services, National Foundation for Infantile Paralysis; Dr. Monroe M. Broad, Secretary, Queens County Medical Society; William J. Dann, Jr., the Executive Officer of the hospital, who is Administrator of the Veterans Hospital, New York City; Dr. Jacob Katz, an Industrial Surgeon; Dr. Henry J. Schmidt, Jr., Chief of the Medical Service, who is Administrator of the Veter-

Fabian Bachrach

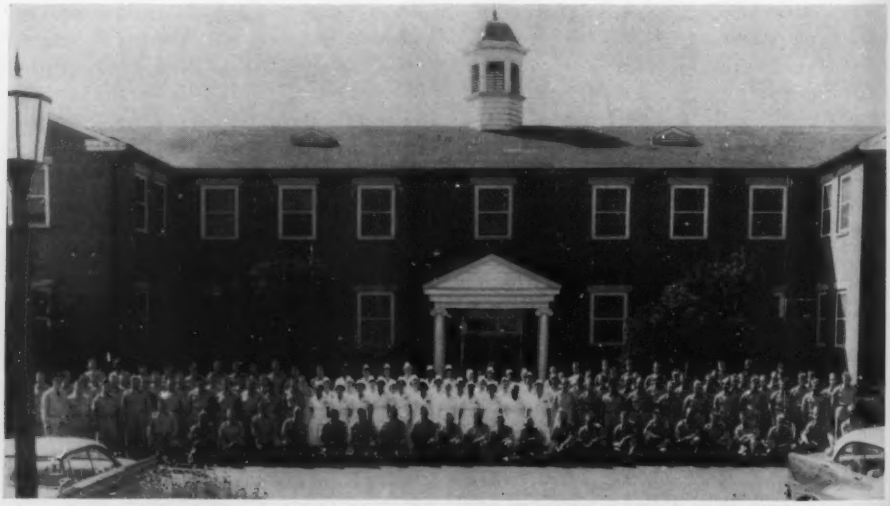
COL. GERALD D. DORMAN, MC, USAR

ans Hospital, Brooklyn, New York; and Jule E. Lane, the Chief Nurse, who is Assistant Director, Nursing Service, Memorial Hospital, New York City.

Those holding the rank of major are: Dr. Edward A. Barrett, the Hospital Inspector and Unit Historian, who is Medical Director of Endo Laboratories; Dr. Louis Drucker, the Training Officer, Member of the New York Dental Society; Dr. Albert W. Kroll, Pathologist and Director of Laboratories, Veterans Administration Hospital, Montrose, New York; Rose Horvath, Assistant Chief Nurse, who is Supervisor Administrative and Nursing Personnel, Bellevue Hospital, New York City; Raymond Kennedy, the Detachment Commander, a Supervisor of the Post Office Department; Edna Tuffley, Chief Operating Room Nurse, who is Directress of Nursing, North Shore Hospital, Manhasset, New York; and Chaplain David Clark.

Holding captain rank are: Joseph Camilleri, Supply Officer, who is Assistant Buyer, A & S Department Store, New York; Robert H. Moylan, Registrar, of the Communications Division, Police Department of New York City; Samuel Olynciew, Laboratory Officer, bacteriologist, Army Area Medical Laboratory, New York City; and Laura L. Simms, Unit Education Coordinator, Assistant Director, Nursing Service, New York Hospital.

The Adjutant is Arthur D. Schmidt, a lawyer in New York City; Personnel Officer is Arthur Freed, and the Sergeant Major is Ivan A. Dillee.



307TH GENERAL HOSPITAL AT U. S. ARMY VALLEY FORGE HOSPITAL—1957

Honor Roll

Since the publication of our last list, the following sponsored one or more applicants for membership in the Association:

Surg. Gen. Leroy E. Burney, USPHS
Maj. Gen. Silas B. Hays, MC, USA
Rear Adm. B. W. Hogan, MC, USN
Brig. Gen. James B. Mason, MC, USAR
Maj. Gen. Dan C. Ogle, MC, USAF
Brig. S. U. Shier, RCA MC
Brig. Gen. M. S. White, USAF (MC)
Maj. Edward A. Barrett, MC, USAR
Capt. Willard C. Calkins, MSC, USN
Capt. Christopher C. Shaw, MC, USN
Capt. S. S. Wald, DC, USNR
Col. Charles R. Mueller, USA, Ret.
Col. Herbert Wendelken, MC, NY NG
Col. Robert E. Bitner, USA, Ret.
Maj. A. E. A. Hudson, MSC, AUS
Dr. Paul E. Walker
Capt. Barbara Hodgkins, USAF (MSpC)
Col. Bernard Aabel, MSC, USA
Capt. Hilton W. Rose, MC, USN
Col. Ennis D. Sandberg, USAF (MSC)
Mr. John A. Kenning, II
Lt. Col. Murble H. Pearson, MC
Capt. J. D. Viecelli, MC, USN
Cdr. Mary C. Grimes, (NC) USN
Col. Byron Steger, MC, USA

PROPOSED CHANGE IN CONSTITUTION

The Executive Council of the Association of Military Surgeons of the United States proposes the following change to Article IV, Section 2, Paragraph 2 of the Constitution of the Association pertaining to the election and holding of office:

PRESENT READING: "These officers shall hold office until their successors are elected and accept office."

PROPOSED READING: "The officers shall be elected yearly at the Annual Convention of the Association and their term of office shall be during the calendar year immediately succeeding that in which their election takes place. In any case in which successors are not elected to office the incumbents shall hold office until their successors are elected and accept office."

DISCUSSION: Since the affairs of the office of president of the Association cannot be cleared up for some time after the annual meeting it is advisable to continue the tenure of office for the remainder of the calendar year in which the meeting is held. The necessity for changing dates of the convention from year to year also makes the term of officers irregular; the calendar year term would make the term of office more certain to all members.

"No one can have watched successive groups of young men pass through the special schools without profoundly regretting the haphazard, fragmentary character of their preliminary education."—SIR WILLIAM OSLER in *The Student Life* (Williams & Wilkins).

NEW BOOKS

Books may be ordered through the Association.

Ciba Foundation Symposium on The Cerebrospinal Fluid, Editors G. E. W. Wolstenholme, O.B.E., M.M.A., M.B., B.Ch., and Cecilia M. O'Connor, B.Sc., Little Brown & Co., Boston, Mass. Price $9.00.

Atrial Arrhythmias, Digitalis and Potassium, Bernard Lown, M.D., Harold D. Levine, M.D., Landsberger Medical Books, Inc., New York, N.Y. Price $6.90.

The Psychology of Medical Practice, Marc H. Hollender, M.D., W. B. Saunders Company, Philadelphia, Pa. Price $6.50.

Electrocardiography, Michael Bernreiter, M.D., J. B. Lippincott Co. Philadelphia, Pa. Price $5.00.

Illustrated Preoperative and Postoperative Care, Philip Therek, M.D., J. B. Lippincott Co., Philadelphia, Pa. Price $5.00.

The Medical Assistant, Miriam Bredow, McGraw-Hill Book Co., Inc. New York, N.Y. Price $7.50.

Forensic Medicine, Keith Simpson, M.D., The Williams & Wilkins Co. Baltimore Md. Price $7.00.

Rehabilitation after Illness and Accident, Thomas M. Ling, M.D., M.R.C.P., and C. J. S. O'Malley, C.B.E., M.B., The Williams & Wilkins Co., Baltimore, Md. Price $3.50.

Pediatric Surgery, Orvar Swenson, Appleton-Century-Crofts, Inc., New York, N.Y. Price $20.00.

Principles of Internal Medicine, 3rd Ed., Editors T. R. Harrison Raymond D. Adams, Ivan L. Bennett, Jr., William H. Resnik, George W. Thorn, M. M. Wintrobe, The Blackiston Division, McGraw-Hill Book Co., Inc., New York, N.Y. Price $18.50.

FIRST AMERICAN PHARMACOPEIA

William Brown (1752-1792), Physician General of the Middle Department of the U. S. Army wrote the first American Pharmacopeia in 1778. This was published in Philadelphia by Styner.

"If we desire peace, one of the most powerful institutions of our rising prosperity, it must be known that we are at all times ready for war."—GEORGE WASHINGTON.

BOOK REVIEWS

DRUGS: THEIR NATURE, ACTION AND USE. By Harry Beckman, M.D., Director, Departments of Pharmacology, Marquette University Schools of Medicine and Dentistry. 728 pages, 126 figs. W. B. Saunders Company, Philadelphia and London. 1958. Price $15.00.

This is a text book for the undergraduate medical student, to supplement laboratory and lecture information. It is plainly and directly written for the student, but will be a useful and rapid reference for graduates, particularly after several years in the field. The text is presented with 126 figures, and ample tables to illustrate information in each of the 76 chapters. Each chapter carries a brief collection of references, making it self-contained. The broad background of pharmacodynamics is presented in 9 chapters, dealing with sources, nature, fate and factors affecting drug administration.

The principal portions of the book deal adequately with the pharmacology of the various types of muscles, and drugs which stimulate and which depress them; the blood and the blood vessels; stimulants and depressants for the central and the autonomic nervous system; the pupil, the kidneys, the liver and gall bladder, the gastro intestinal tract. There follows discussions of the treatment of specific symptoms, such as antipyretics, antihistaminics, antidotes, anti-motion sickness remedies, anthelmintics and antiseptics. Then comes discussions of enzymes, hormones and vitamins, and finally an entire chapter on the pharmacology of drugs used for diagnostic aids. The index of 43 pages is very helpful for quick reference.

Each section takes up the chemistry and structural formulae, source, clinical effects, absorption, distribution, dosage, and side-effects of the products having similar actions on target areas. This is an excellent and rapid way to catch up with the new drugs, and is materially helped by a chart showing therapy for infectious diseases within the cover.

JAMES C. MUNCH

OPERATIVE SURGERY. Vol. 4 (8 vols. to set). Head and Neck and Clearance of Lymph Nodes; Vascular Surgery; Endocrine Glands. Under the General Editorship of Charles Rob, M.C., M.Chir., F.R.C.S., Professor of Surgery, St. Mary's Hospital, London; and Rodney Smith, M.S., F.R.C.S., Surgeon, St. George's Hospital, London. F. A. Davis Company, Philadelphia. 1957. Price $19.50 per vol.

Volumes I, II and III of this 8-volume work have already been reviewed. The present review deals with Volume IV only. This volume deals with Surgery of the Head and Neck, Face, Jaws, Mouth, Vascular Surgery (including the sympathetic chain of ganglia, veins, arteries, and lymphatics), and Endocrine Glands (including thyroid, parathyroids, thymus, pituitary, and adrenals). The remaining four volumes deal with the Surgical Specialties, except for the occasional interpolation of a General Surgical subject, which is a pity. It would be much better to keep the Surgical Specialties in volumes by themselves.

The general excellence displayed in the first three volumes is continued, in spite of the fact that some of the drawings are not quite clear.

The volume continues the plan of the entire series in presenting a pictorial approach to surgery giving illustrations of the steps of all the various operations and only a brief description in the text. This is really an excellent way to present operative surgery.

The illustrations of the cervical approach to removal of a retrosternal goitre are not as adequate as they might be. Lahey has presented this difficult subject so clearly with such beautiful and adequate illustrations that I think a leaf might have been taken from his book.

On the whole, though, the book will be a great help to both the surgical resident and the experienced surgeon. This volume is very complete so far as the subjects covered are concerned. This reviewer, who only occasionally removes a stone from the submaxillary salivary duct, had one to remove just as this volume arrived for review. He found both the illustrations and the text most helpful—at least as good as, and possibly slightly better than, those found in Bickham's "Operative Surgery."

This volume continues the general excellence of the first three, and all would make a valuable addition to any surgical library.

AMOS R. KOONTZ, M.D.

GENERAL PATHOLOGY. 2d Ed. Based on Lectures at Oxford University. Edited by Sir Howard Florey, Professor of Pathology, Sir William Dunn School of Pathology, University of Oxford. 932 pages, illustrated. W. B. Saunders Company, Philadelphia and London. 1958. Price $16.00.

The first edition of this book appeared in 1954 under the title of "Lectures on General Pathology"

and as this earlier title implies, it is not the usual text book of pathology.

Fifteen authors have contributed forty-three chapters on such basic subjects as inflammation, thrombosis, fever, edema, healing, the nature of tumor growth, the pathogenicity and virulence of microorganisms, the nature of antigens and antibodies, acquired immunity and anaphylaxis.

Text books of pathology consist largely of descriptions of gross and microscopic changes seen in various diseases but this volume is devoted to the fundamental changes which take place in the body in response to disease agents. The subject matter is drawn from the course at Oxford in General Pathology and Bacteriology and includes much more material on the bacteriological aspects of disease than is found in most books on pathology. In the medical schools of the United States there is a tendency to neglect bacteriology. The pathologist and bacteriologist grow further apart with the field of bacteriology left to the Ph.D while the M.D.s become tissue pathologists. Thus there is little correlation, in teaching, between basic bacteriology and pathology. This book bridges that gap and furnishes excellent supplementary reading for those students who desire to broaden their foundation for clinical studies.

In addition to the chapters mentioned above there are chapters on blood coagulation, atherosclerosis, the biological effects of radiant energy, the epidemiology of cancer and the mode of action of antibacterial substances. Two chapters are devoted to the subject of chronic inflammation and tuberculosis.

The authors of the various chapters are all from Oxford with the exception of Dr. Berenblum from the Weizmann Institute in Israel, Dr. G. R. Cameron from the University College Hospital Medical School in London, Dr. K. B. Roberts from the University of Edinburgh and Dr. F. K. Saunders from the London School of Hygiene and Tropical Medicine. In addition to pathologists the contributors include a pharmacologist, an experimental biologist, a hematologist, a physiologist, a professor of medicine and two bacteriologists.

The authors are all well qualified in their special fields and their collected writings constitute an excellent review of many of the fundamentals of disease processes.

COLONEL HUGH R. GILMORE, JR., USA, RET.

VERTIGO AND DIZZINESS. By Bernard J. Alpers, M.D., Sc.D.(Med.), Professor and Head of the Department of Neurology, Jefferson Medical College. 120 pages. Grune & Stratton, New York and London. 1958. Price $5.00.

The frequent symptom of vertigo is seen in all types of medical practice. This slender volume presents a logical way to examine a patient who complains of dizziness. The anatomy and physiology of the labyrinth and its connections as well as the vestibular system is well done. The author develops his subject by discussion of mechanisms in the production of vertigo, its signs, symptoms and causes. Treatment of vertigo is not discussed too deeply, perhaps because therapy is often difficult. No mention of thorazine, sparine, or compazine by injection or rectal route is mentioned. However this is a good presentation of the subjects of vertigo and dizziness.

PHILIP H. SMITH, M.D.

CLINICAL HEART DISEASE. 5th Ed. By Samuel A. Levine, M.D., F.A.C.P., Clinical Professor of Medicine, Harvard Medical School. 673 pages, 216 figs. W. B. Saunders Company, Philadelphia and London. 1958. Price $9.50.

This Fifth Edition marks another step forward in the amazing progress of clinical cardiology. In comparing the Fourth Edition the present text has been increased by some 100 pages by revising and modernizing the sections on congenital heart disease, cardiac surgery and vector cardiography.

The body of the text is divided into 18 chapters each of which stresses the clinical aspects of the subject matter almost to the exclusion of the physiologic approach to cardiac problems. This, in a sense, is lamentable because the "physiology of today should become the bedside practice of tomorrow."

The author advocates routine use of anticoagulants in the treatment of cases of established coronary occlusion, provided the laboratory reports are reliable. (This at once sets up a division of responsibility, unless the cardiologist conducts his own clinical laboratory!) Ambulatory anticoagulant therapy is recommended in cases of multiple infarction. The surgical treatment of angina pectoris is discussed in detail relative to the personal clinical experience of various advocates. The "armchair treatment" of myocardial infarction is rather cautiously recommended because of the medico-legal aspects of the popular lay phrase: "If cardiacs are to die, they should die in bed."

The final chapter on clinical electrocardiography is very well written and profusely illustrated. The discussion of vector cardiography is well interpolated within the text and will be of practical value to the student and intern.

The original publication by Levine appeared in 1936 and during the past two decades the author not only has kept pace with the rapid progress of cardiology but also has continued to uphold his reputation as a leading light in this most important clinical field. The clarity of his style emphasizes his vast personal experience in the area. Thus, his current Fifth Edition can be highly recommended to student, house-officer, clinician and cardiologist.

CAPT. C. C. SHAW, MC, USN

AN INTERNATIONAL NOMENCLATURE OF YAWS LESIONS. Mono. No. 36. By C. J. Hackett, in cooperation with an International Group of Experts on Yaws. 104 pages, 76 plates. Columbia University Press, New York, or World Health Organization, Geneva, Switzerland. Price $4.00.

This present edition is in English although there is a French edition in preparation.

There has been much confusion in the nomenclature of yaws lesions. However, in the past five years much additional knowledge has been accumulated on yaws and the nomenclature in this book may be regarded as superseding the earlier one in the *Atlas of Framboesia.*

The present nomenclature is the result of a questionnaire prepared by the World Health Organization and distributed to experts in various parts of the world. The replies, together with the available literature on yaws terminology, were studied in WHO and a report was drawn up which was considered by participants at the International Conference on Yaws Control held at Enugu, Nigeria, in 1955.

The full page plates showing lesions contribute immeasurably to the words of this monograph.

R. E. B.

THE ESSENCE OF SURGERY. By C. Stuart Welch, M.S., M.D., Ph.D., Professor of Surgery, Albany Medical College; and Samuel R. Powers, Jr., A.B., M.D., M.Sc.D., Professor of Experimental Surgery, both of Albany Medical College. 320 pages, 50 figs. W. B. Saunders Company, Philadelphia and London. 1958. Price $7.00.

The title of this compact and informative volume is well chosen. In readable language and with well-selected illustrations, the authors portray a panoramic view of surgery in its total sense. No attempt to catalogue diseases according to regional anatomy is made. Instead the book is divided essentially into three sections: (1) History and philosophy; (2) Injuries (including fluid balance, wounds and wound healing, and infection); and (3) Operative surgery (with some description of technique, extirpative and reconstructive surgery, and anesthesia).

For more complete surgical knowledge one must go elsewhere in the literature. For a short resume of principles, however, this volume has much to offer, particularly to students and young physicians. The chapters on "Loss of Body Fluids" and on "Principles of Preoperative and Postoperative Care" warrant particular comment. Both of these chapters are laden with many salient facts which would reinforce the knowledge of any practicing surgeon, and for these chapters alone this volume is recommended to all surgeons, general or otherwise.

CDR. ROBERT H. BROWN, MC, USN

CLINICAL ELECTROCARDIOGRAPHY. The Spatial Vector Approach. By Robert P. Grant, M.D., National Heart Institute, National Institutes of Health, Bethesda, Md. 225 pages, illustrated. The Blakiston Division, McGraw-Hill Book Co., Inc., New York, Montreal, and London. 1957. Price $7.50.

The vector approach to electrocardiology has been an enigma to those who have been trained in scalar pattern analysis. In this book Dr. Grant has successfully bridged the gap between theory and practice by a brilliant correlation of these two methods.

Beginning with fundamental principles of physics and electricity, Dr. Grant builds up a solid basis for the understanding of vectors and their clinical application to electrocardiographic interpretation. In so doing, he rationalizes many heretofore puzzling aspects of the subject.

Variations in ECG recording due to age, body build, position and abnormalities, are clearly explained in the text and instructively illustrated in conveniently placed figures. Abnormalities of early (0.04 sec.) and terminal QRS forces, ventricular gradient ST and T forces are coordinated with the clinical cardiac changes that produce these alterations.

Two brief chapters are devoted to the arrhythmias and cardiograms of normal children and those with congenital heart disease. Dr. Grant treats these two sections anticlimactically.

This book is a must for those medical officers interested in electrocardiology, and particularly those who wish to graduate from scalar pattern interpretation to the more scientific vectorial approach.

CAPT. JULIAN LOVE, USN, RET.

HORMONES IN BLOOD. Ciba Foundation Colloquia on Endocrinology. Vol. XI. Edited by G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Elaine C. P. Millar, A.H.W.C., A.R.I.C. 416 pages. Little, Brown and Company, Boston. 1957. Price. $9.00.

This volume contains the proceedings of the forty-third Ciba Foundation International Conference held in London, England, from Feb. 18-22, 1957, by a group of international authorities on endocrinology. It was the 17th conference held by the Foundation on an endocrinological subject since 1950. It is for the first time a composite report on the present advances made in the study of the biological assays of hormones in blood, particularly from the pituitary, thyroid, adrenal and pancreas.

The chairman of the colloquium was Dr. A. S. Parks. He as well as other participants in the conference, emphasized the "Back to Blood" policy as the main theme of the conference. The second theme stressed was that in the case of pituitary hormones particularly, the concentration of other hormones in the blood react by homeostatic mechanisms.

Twenty-one reports are presented and each is done in an excellent straightforward manner. Each

paper is followed by discussion by various participants who further bring out the reliability or unreliability of the method of hormone assay or analysis reported; comments and suggestions are rendered.

This volume should be of keen interest to the endocrinologists in regard to the recent achievements in endocrinology and the need for further study in certain phases.

CDR. W. B. INGRAM, MC, USN

OPERATIVE SURGERY. Vol. 5. Orthopedic Surgery. (Eight volumes to set.) Under the General Editorship of Charles Rob, M.C., M.Chir., F.R.C.S., Professor of Surgery, St. Mary's Hospital, London. F. A. Davis Company, Philadephia. 1957. Price $19.50 per vol.

Volume 5 of "Operative Surgery" deals entirely with orthopaedic problems and procedures. It has a distinguished list of contributors who in general represent the most advanced British thinking in the particular field each one presents.

As in the previous volumes, the illustrations are excellent and the operative steps and techniques are easy to follow. There is a minimum of descriptive text and relatively little discussion of indications, complications or expected long term results. In most cases one operation is selected as being the procedure of choice for a particular situation and is then illustrated in considerable detail. The book complements rather than competes with the standard American text, "Campbell's Operative Orthopaedics," which discusses numerous procedures for achieving a desired end result but presents very few in much detail.

The operative procedures that are presented represent current British opinion which differs in some respect from the current American trends. Nevertheless, the procedures advocated are sound and up-to-date, and any differences are those of opinion and not of fact or principle. For instance, this volume advocates simple trifin nails with minimal shaft fixation for fractures of the neck of the femur, whereas the American trend is towards shaft fixation and sliding nails.

A more marked difference of opinion exists in the field of leg length inequalities. The growth stimulation operation of Trueta in which a long segment of the diaphysis is removed, boiled and replaced in the marrow cavity is presented without editorial comment, although many people are unsure of the efficacy of this massive and still experimental procedure. Similarly, bone lengthening operations of two to three inches are mentioned as being "without great risk," although American experience has been to the contrary. Finally, no mention is made of epiphysiodesis or stapling which despite their imperfections have been great contributions to the field.

The reviewer feels that the volume can be enthusiastically recommended to all interested in orthopaedic surgery.

J. T. H. JOHNSON, M.D.

PROGRESS IN NEUROLOGY AND PSYCHIATRY: AN ANNUAL REVIEW. Volume XII. Edited by E. A. Spregel. 657 pages. Grune & Stratton, Inc., New York and London. 1957. Price $12.00.

As in previous years, the editor and contributors set out to review a "literary output . . . characterized less by ingenious discoveries than by an enormous production of details as tested by the some four thousand papers reviewed in this volume." This task is essayed by sixty-four specialists, covering thirty-six subject categories. The result is a broad aspect combined with selective comment, the strength and value of all such review volumes in medicine. The research worker and historian must have this type of help from his colleagues. Those with particular interests will extend their own reference lists and summarizations. The inductive or heuristically-minded may use all the chapters of the present edition. Each must thank the contributors and editorial board for a valuable service far beyond a mechanical indexing and bibliography. With regard to content the advances in the prevention of poliomyelitis and in the treatment of tuberculous meningitis, the increasing understanding of the oculomotor activities of the primate brain, and more dispassionate usage of the phenotrophic compounds may serve as highlights. In summary, the book is an introduction, and a good one, to the year's work.

CDR. T. H. LEWIS, MC, USN

HEART DISEASE AND PREGNANCY. Physiology and Management. By C. Sidney Burwell, M.D., Samuel A. Levine, Professor of Medicine, Harvard University, and James Metcalfe, M.D., Associate in Medicine, Harvard University. 338 pages, illustrated. Little, Brown and Company, Boston and Toronto. 1958. Price $10.00.

This book is unusual in that it simultaneously presents a concise review of the literature on heart disease and pregnancy from both the obstetrician's and the cardiologist's standpoints. The authors have been able to interject their vast personal experiences in this field and leave the reader with an understandable and workable system for managing this not uncommon complication to pregnancy.

The material is presented in a well organized manner. The sections on physiology of maternal circulation and respiration are concise and well documented; at the same time readily readable and understandable. Especially noteworthy are the current and authoritative comments concerning cardiac surgery and its relationship to pregnancy.

All the cardiovascular diseases which could conceivably complicate pregnancy are succinctly discussed as to etiology, pathology, physiology, diag-

nosis, management, and prognosis. A firm stand has been taken with regard to each entity.

This book is a must for physicians who are responsible for the care of pregnant women. It is of special value to that group of doctors enjoined with the task of teaching either cardiology or obstetrics.

CDR. THOMAS B. LEBHERZ, MC, USN

BONE DISEASES IN MEDICAL PRACTICE. By I. Snapper, M.D., Director of Medicine and Medical Education, Beth-El Hospital, Brookyn, N.Y. 229 pages, and 48 plates. Grune & Stratton, New York and London. 1957. Price $15.00.

This is an excellent book from which to begin the serious study of bone diseases. The author has condensed a voluminous amount of material to 229 brief pages, written almost in outline form. The section on physiology of bone and semantics of bone disease is up-to-date, and the biblography appended is quite excellent for the average worker. The section on vitamin disease, as related to bone pathology, is commendable. The illustrative roentgenograms picked for the various illustrations which follow the index of this book are good, but the main difficulty is they are so far separated from the subject matter. However, this does not detract too much from this book's value as a source of information for the reader with casual interest in medical diseases of bone. The book will give the reader many leads to study in more detail his areas of specific interest. This is a source book that should be available to all hospital staffs in their library.

LT. COL. DAVID C. KELLSEY, USAF (MC)

CARDIOVASCULAR REHABILITATION. A CONFERENCE. Edited by Paul Dudley White, M.D., Massachusetts General Hospital; Howard A. Rusk, M.D., New York University-Bellevue Medical Center; Bryan Williams, M.D., Southwestern Medical School, University of Texas, Dallas; and Philip R. Lee, M.D., Palo Alto Clinic, Calif. 155 pages. The Blakiston Division, McGraw-Hill Book Company, Inc., New York, Toronto, London. 1957. Price $6.50.

This book records the proceedings of an informal conference on Cardiovascular Rehabilitation held at the New York University-Bellevue Medical Center on May 25 to 27, 1956. The participants included several outstanding authorities on cardiovascular disease, industrial physicians, psychiatrists, and physical therapists.

Five sessions were held and covered the following topics: Emotions and the Person with Cardiovascular Disease; Work and the Person with Cardiovascular Disease; The Practice of Cardiovascular Rehabilitation; The Teaching of Cardiovascular Rehabilitation; Research in Cardiovascular Rehabilitation.

The discussions are presented in a very interesting manner, and the reader cannot help but be impressed with the paucity of information that exists today in cardiovascular rehabilitation. For one thing, there is no way to quantify motivation or the experience of a worker on his particular job. Secondly, treadmill evaluations find little correlation with actual working conditions. Thirdly, the figures that research cadiovascular physicians obtain on patients lying on a fluoroscope table in the dark with a catheter inserted into one vein, another catheter in the femoral artery, the patient's nose connected to a respiratory apparatus, his feet pumping away on a stationary bicycle, plus several other attachments, can in no manner be considered a test of an individual in a basal state.

The most practical and sensible observations are those offered by doctors actively engaged in industrial medicine who, for one thing, realize that industry, while agreeable to a certain amount of philanthropy in the re-employment of those with cardiovascular diseases, must after all consider the profit motive, the effect of such workers upon the morale of others and above all, their liability in compensation cases started by such employees who claim secondary aggravation.

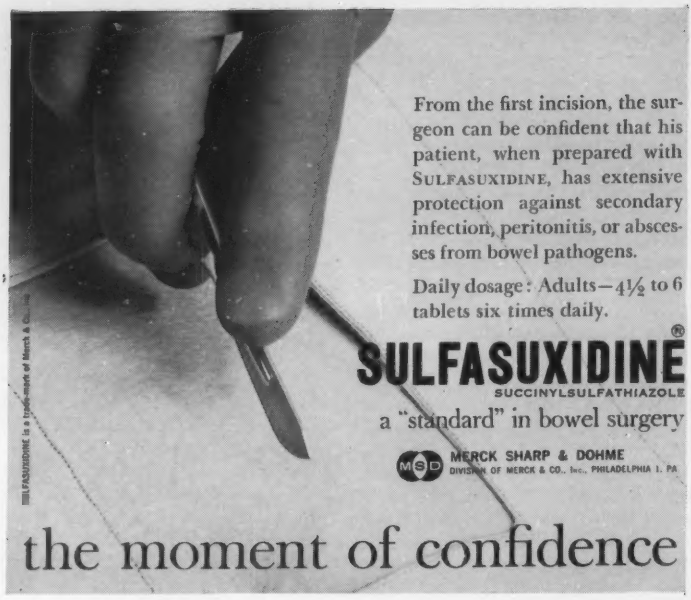
This book will have its greatest appeal to those physicians concerned with industrial medicine, internists, cardiologists and those concerned with cardiovascular research. I am sure they will find it very profitable and interesting reading.

CAPT. JULIAN LOVE, MC, USN, RET.

FORENSIC MEDICINE. A Text-Book for Students and A Guide for the Practitioner. 6th Ed. By Douglas J. A. Kerr, M.D., D.P.H., F.R.C.P., (Edin.), F.R.S. (Edin.), Pegius Professor of Forensic Medicine in the University of Edinburgh. 363 pages, illustrated. The Macmillan Company, New York. 1957. Price $6.50.

This current text, as revised and brought up to date, runs the whole gamut of legal medicine, death and sudden death, examination and identification, homicide and other crimes, accidents and wounds, sexual offenses, insanity, poisonings, and legal administration. Scattered among the 32 chapters are 77 illustrations, mostly gruesome, which enhance the value of the text. The book is well printed and indexed. It should be of interest and value to all those on both sides of the Atlantic who teach, study, or practice legal medicine. The medical aspects are the same everywhere and the American system of jurisprudence has its roots in the English common law, despite its own peculiarities and modifications, which are set forth in the standard American texts.

COL. JAMES A. TOBEY, USA, RET.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